

**DIRECT TESTIMONY OF
NORMAN W. LAMBE
NMPRC CASE NO. 15-00312-UT**

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF THE APPLICATION OF)
PUBLIC SERVICE COMPANY OF NEW MEXICO)
FOR PRIOR APPROVAL OF THE ADVANCED)
METERING INFRASTRUCTURE PROJECT,)
DETERMINATION OF RATEMAKING PRINCIPLES)
AND TREATMENT, AND ISSUANCE OF RELATED)
ACCOUNTING ORDERS)
PUBLIC SERVICE COMPANY OF NEW MEXICO,)
Applicant.)**

Case No. 15-00312-UT

Direct Testimony of
Norman W. Lambe

On Behalf of
Citizens for Fair Rates and the Environment

July 13, 2016

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3 **Table of Exhibits for Norman Lambe (“NL”)**
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5
6

7 CFRE NL 1. Resume of Norman Lambe
8

9 CFRE NL 2. Protocol Insurance Services, Report, December 3, 2015 to Norman Lambe
10 from Vincent Panko, Protocol Insurance Services. RE: Claim number 2015-2031-77A
11

12 CFRE NL 3 a and CFRE NL 3 b. EFI Global Forensic Electric Engineering Reports, 100
13 Degrees Hot Pot, LLC, Claim number 77A5001263-00 (2015-1618-77A). CFRE 3 a - is
14 dated September 18th 2015, the follow-up report, CFRE 3 b - is Dated June 6 2016.
15

16 CFRE NL 4. San Diego Fire Department’s Incident Report number FS 14023257,
17 regarding named insured Troy’s Greek Restaurant.
18

19 CFRE NL 5. Policy, A & E Insurance for Architects & Engineers containing Lloyds of
20 London’s Exclusion 32.
21

22 CFRE NL 6. Squirrels, Grid Security and a Stuffed Rudd, Nick Hunn
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24
25
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28

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1 **Q. Please state your name, job title and business address.**

2 A. My name is Norman Lambe. I am a Senior Property Claims Examiner at Precision
3 Risk Management, PO Box 628, Cypress, CA 90630.

4

5 **Q. Please describe your professional background and experience.**

6 A. I have worked in property claims approximately 30 years. I have been involved in the
7 investigation, evaluation, and adjustment of insurance claims for property damage. This
8 encompasses the investigation of the destruction to the named insured's buildings,
9 structures and business or personal property. Since June 1, 2010, I have served as a
10 Senior Property Claims Examiner at Precision Risk Management, Inc., in Cypress,
11 California.

12

13 Prior to my current employment, I served as a Senior Property Claims Examiner for First
14 American Property and Casualty in Santa Ana, California, from 2003 -2010. My work
15 with this insurance carrier also involved the investigation, evaluation, and adjustment of
16 Homeowner and Commercial First Party Claims. I have been involved in the
17 investigation of fire losses to homes and businesses as well as the adjustment of the
18 building claims and the adjustment of personal property loss. I have experience in
19 adjusting losses that range from a destroyed sofa or the theft of a television set to claims
20 from 9/11 attacks to claims for damages and losses that resulted from fires caused by
21 "smart" meters. For further relevant work experience please see Exhibit CFRE NL 1.

22

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1 I have had first-hand experience in the following “smart” meter-caused fires cases:

2 2015-1369-77A—shopping center fire

3 2015-2031-77A---condominium complex fire

4 2013-9656-77A---apartment complex fire

5 2015-2156-77A---restaurant fire

6 2016-2692-77A--- hotel power surge

7

8 **Q. Have you testified previously before the New Mexico Public Regulation**
9 **Commission (“Commission”)?**

10 A. No.

11

12 **Q. What is the purpose of your testimony?**

13 A. I am concerned for the well-being of homeowners and business owners who purchase
14 or rent their facilities and then buy insurance policies to protect themselves from damage
15 and loss in the event of a catastrophe. I see submission of this testimony as part of my
16 job, to do what I can to spare people from pain and suffering. If there is something that I
17 can do to keep that from happening, to help prevent a home or business from burning,
18 then I want to do it.

19

20 I will testify to some of the challenges that have arisen from “smart” meter deployments.
21 Additionally, I am submitting evidence that “smart” meters have caused fires and that
22 these meters are sometimes removed by utility companies before a proper investigation

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1 can be conducted. On this subject I am submitting 4 reports, Exhibits CFRE NL 2, CFRE
2 NL 3 a and b, and CFRE NL 4.

3

4 I am also submitting Exhibit CFRE NL 5. This document includes an exclusion that
5 indicates that an insurance company that has Lloyds of London as its reinsurer, will not
6 pay for any physical illness that is directly related to the insured's exposure to radio
7 frequency radiation ("RFR"). "Smart" meters are one of the major appliances that
8 produce RFR.

9

10 I also submit CFRE NL 6, an article detailing the growing threat of cyber-attach, this is a
11 serious threat and problem associated with AMI deployment; It should not be taken
12 lightly.

13

14 **Q. What challenges do you face as a claims examiner?**

15 A. In the event of damage or loss to property, and usually after the insured person(s) are
16 reimbursed for damages, Claims Examiners are obligated to pursue the responsible party
17 for the recovery of the named insured's deductible, and for the money that the insurance
18 company dispersed for repair of the damage.

19

20 My job can be very unpopular at times, especially when the insured believes that they are
21 entitled to more than what the policy can provide. Although property claims
22 reimbursement is limited to the actual valuation of the property loss, I can see that in

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1 many cases the losses cause severe mental and emotional strain and hardship for the
2 claimant.

3

4 **Q. What are some of the issues that have arisen from “smart” meter-caused fires?**

5 A. In cases of fire involving "smart" meters, by the time a representative from the
6 insurance company arrives at the scene, the utility has already responded, usually during
7 the course of the local fire department's fire suppression efforts. Utility companies
8 commonly remove the "smart" meter that had malfunctioned and/or ignited prior to
9 completion of the necessary investigation into the cause of the fire. This hampers my
10 ability to see that a proper investigation is performed for insurance purposes. This also
11 complicates the job of Fire Marshals and/or fire department investigators. This may
12 potentially also lead to a misdiagnosis by fire departments and insurance agencies and an
13 undercounting of the total number of “smart” meter caused fires.

14

15 Utility companies have kept the "smart" meters, claiming that they are the company's
16 property, and they can do with them as they please. It can take me several months, if not
17 years, to obtain *the* "smart" meter that is believed to be the same one involved in, and the
18 primary cause of a particular fire. Thus, the timeframe required to perform the requisite
19 analysis is substantially extended; consequently, fires caused by "smart" meters can be
20 extremely challenging to investigate and resolve.

21

22 **Q. Please describe the significance of Exhibit CFRE NL 2.**

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1 A. CFRE NL 2. Is a Report from Vincent Panko of Protocol Insurance Services, dated
2 December 3, 2015 to me, Norman Lambe, RE: Claim number 2015-2031-77A. This case
3 exemplifies the difficulty that we encounter when trying to obtain access to “smart”
4 meters in order to perform a proper investigation.

5 We still have not been permitted the opportunity to inspect the meter by Nevada Energy.
6 Residents stated that the “smart” meter exploded. The inability to access the meters in
7 “smart” meter fire cases is a consistent problem.

8 **Q. Please describe the significance of Exhibit CFRE NL 3 b.**

9 A. Exhibit CFRE NL 3 b is a forensic electric engineering investigation report for a loss
10 at 5600 Spring Mountain Road; Las Vegas, Nevada in 2015. The business is 100
11 Degrees Hot Pot LLC, claim number 77A5001263-00 (2015-1618-77A).

12

13 Exhibit CFRE NL 3 b is a follow-up report. CFRE NL 3 b details new findings on the
14 referenced loss that were revealed during the course of the joint destructive inspection of
15 the "smart" meters. These meters were the subject of an earlier report by this author,
16 dated September 18, 2015 which have also submitted, as CFRE NL 3 a. The joint
17 destructive inspection was conducted at NV Energy; 6226 W. Sahara Blvd.; Las Vegas,
18 NV, on April 21, 2016.

19

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1 CFRE NL 3 b reveals that the “smart” meters were removed from the scene prior to
2 completion of the fire investigation. This report indicates that the remote switching
3 mechanism in a “smart” meter was determined to be the cause of the fire.

4
5 Unlike analog meters, "smart" meters can turn power "on" or "off" remotely. Sometimes,
6 during activation of this remote switch, a tremendous burst of power can cause arcing in
7 the meter and result in fire. As noted in the report by EFI Global (CFRE NL 3 b p.4),
8 “All observed damage to the electrical panel and the meter itself is consistent with a fire
9 triggered by extreme heat at the defective switch contacts inside the meter. The heat
10 transferred to the metal clips, which were held in position by a resin-based insulator. The
11 extreme heat ignited the insulator. The ensuing fire burned upward inside the panel,
12 explaining the damage to the circuit breaker located directly above it. Open flame
13 conducts electricity, so the flame drew an arc between the two energized power rails in
14 the panel, explaining the unusual arc patterns in the center circuit on the panel, which was
15 not part of the ‘HP’ meter circuit.”

16
17 This fire occurred solely and directly as a result of the installation of a defective meter
18 into an existing and serviceable electrical panel by the utility company, NV Energy. The
19 fire originated in a locked and concealed area that is accessible only to employees of NV
20 Energy. The owners and occupants of the subject building did nothing wrong and were
21 powerless to prevent this fire. The employee(s) of NV Energy who installed the meter
22 were the last persons having the opportunity to inspect the subject meter and associated

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1 panel. The responsibility to identify and prevent electrical fires of this nature rests with
2 the utility provider and, by inference, the manufacturer of the defective meter.

3
4 **Q. Please describe the significance of your Exhibit CFRE NL 4.**

5 A. CFRE NL 4 is a San Diego Fire Department Incident Report, number FS 14023257.

6 On February 26, 2014, a fire broke out at Friars Village, a shopping mall located at 10450
7 Friars Road in San Diego, California, at Troy's Greek Restaurant.

8
9 Many entries from this report provide important independent accounts of what took place
10 at the Friars Village Shopping Mall. SDGE refers to San Diego Gas and Electric:

- 11 - At 18:21:14, the report states "have SDGE expedite, 2 elect boxes on fire."
12 - This is repeated at 18:21:42 "/ SDG expedite 2 elect boxes on fire"
13 - At 18:34:47 the report states that "...2 high voltage elec boxes smoldering at the
14 elec shut off for the strip mall... units standing by until SDGE arrives..."
15 - Another entry at 19:42:09: "2 SDGE meters on fire. 15 businesses evacuated and
16 w/o power."

17
18 Please note that as of the date of this testimony, more than two years later, we have not
19 yet been able to gain access to our insured's "smart" meter in order to perform the
20 requisite investigation.

21
22 **Q. Why have you not been able to gain access to the meter in this incident?**

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1 A. If the meter caused the fire, the utility would be responsible for the damages caused by
2 the fire, not my insurance company; therefore, I believe that the utility does not want my
3 company to inspect the meter.

4
5 **Q. How does not gaining access to the “smart” meter affect the insurance business?**

6 A. To meet our obligations, insurance providers must determine the cause of damage
7 that we insure. If another party is determined to be responsible for damage, then they
8 would be responsible for paying for damages. "Smart" meters cause fires. When utilities
9 do not let insurance companies investigate these meters, the cause of those fires, our
10 companies are left to pay for the damages inflicted upon our customers.

11

12 **Q. What do you believe to be the likely outcome of the threats posed by radio**
13 **frequency radiation and “smart” meter caused fires?**

14 A. I believe some of the problems associated with "smart" meters are coming to a
15 crescendo. Soon enough, one or more large property insurance companies will decide to
16 exclude any damage to a building, business or personal property directly related to the
17 malfunction of a "smart" meter, or more specifically, “smart” meter-caused fires. There
18 is already one significant development whereby Lloyd’s of London has issued an
19 exclusion; by this I mean that they have incorporated an exclusion into their policies to
20 exempt the company from paying for any “smart” meter or other radio frequency
21 radiation (“RFR”) related illnesses. Electric “smart” meters, or more specifically, an

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1 AMI system in whole is a particularly dangerous source because of the quantity,
2 frequency, and pulsing nature of the output of this sort of radiation.

3

4 Insurance companies were some of the earliest companies to recognize the threat of
5 global climate change posed by greenhouse gasses, which is now a thoroughly accepted
6 phenomenon. Now it appears that insurance companies will be amongst the first to
7 recognize the dangers associated with health issues that result from exposure to RFR such
8 as AMI systems and other RFR emitting devices.

9

10 **Q. Please be specific, how has Lloyds of London reacted to health damages caused**
11 **by exposure to electromagnetic or radio frequency radiation, including those from**
12 **“smart” meters?**

13 A. Lloyds of London, perhaps the world's largest reinsurance carrier, issued "Exclusion
14 32." This exclusion indicates to other insurance companies that has Lloyds of London as
15 its reinsurer (underwriter) will not pay for any physical illness that is directly related to
16 the insured's exposure to radiofrequencies (RFs). I am submitting a copy of Lloyds of
17 London's Exclusion 32 as contained within an A & E Insurance for Architects &
18 Engineers policy, Exhibit CFRE NL 5.

19

20 **Q. Would UL certification ensure that a meter is safe?**

21 A. Most "smart" meters have not been certified by any independent certification body,
22 such as Underwriters Laboratory ("UL") or Canadian Standards Association ("CSA").

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1 Instead “smart” meters are routinely certified by industry groups such as ANSI and IEEE.
2 All of the models of meters that have burned, and many have, have been certified by
3 these industry groups. UL has a new certification standard that is said to have been
4 developed to insure the safety of “smart” meters, UL Standard 2735. But, even this
5 certification is not sufficient. The very meters that have received this certification,
6 Sensus and Landis & Gyr, have caused fires.

7

8 **Q. What other concerns do you have about “smart” meters?**

9 "Smart" meters also pose a security risk. On May 3, 2016, Nick Hunn of WiForce
10 Consulting, Ltd. testified at the UK House of Commons' Science and Technology's
11 "evidence check" and inquiry into the country's "smart" metering initiative. Mr. Hunn
12 stated: "The concern I have is that every smart meter has an isolation switch so it can be
13 remotely connected from the supply . . . If somebody could hack into that or just by
14 mistake turn off very large numbers of meters, that sudden shock of taking them off the
15 grid, and even worse, be able to turn back on at the same time, would cause significant
16 damage. And to me that's an unnecessary risk." CFRE NL 6 is an article by Nick Hunn
17 that notes some recent cyber-attacks. This threat should not be trivialized.

18

19 **Q. What are your recommendations about PNM’s AMI Project Proposal?**

20 Installing “smart” meters is not a prudent investment. It is not fair for PNM to put
21 unnecessary risk onto the shoulders of its customers including the risk of “smart” meters
22 caused fires or health risks. Furthermore, how these AMI meters affect the electrical

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1 wiring systems of old homes and customer's appliances must be thoroughly studied.
2 Finally, the absolute safety of any and all meters should be proven *before* they are
3 installed, if ever they are installed.

4

5 **Q. Does this conclude your Direct Testimony?**

6 A. Yes, it does.

Norman W. Lambe

07.13.2016

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF THE APPLICATION OF)
PUBLIC SERVICE COMPANY OF NEW MEXICO)
FOR PRIOR APPROVAL OF THE ADVANCED)
METERING INFRASTRUCTURE PROJECT,)
DETERMINATION OF RATEMAKING PRINCIPLES)
AND TREATMENT, AND ISSUANCE OF RELATED)
ACCOUNTING ORDERS)
PUBLIC SERVICE COMPANY OF NEW MEXICO,)
Applicant.)

Case No. 15-00312-UT

STATE OF CALIFORNIA)
) ss
COUNTY OF ORANGE)

Norman W. Lambe, upon being duly sworn according to law, under oath deposes and states: I have read the foregoing Direct Testimony and Exhibits of Norman W. Lambe, and it is true and accurate based upon my own personal knowledge and belief.

SIGNED this 13 day of July, 2016.

Norman W. Lambe
Norman W. Lambe

SUBSCRIBED AND SWORN to before me this 13th day of July, 2016.

Veronica Rivas
Notary Public



JURAT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this Certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Orange } SS.

Subscribed and sworn to (or affirmed) before me on this 13 day of July, 2016, by

Norman W. Lamb, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.



Veronica Rivas
NOTARY'S SIGNATURE

PLACE NOTARY SEAL IN ABOVE SPACE

OPTIONAL INFORMATION

The information below is optional. However, it may prove valuable and could prevent fraudulent attachment of this form to an unauthorized document.

CAPACITY CLAIMED BY SIGNER (PRINCIPAL)

- INDIVIDUAL
- CORPORATE OFFICER _____
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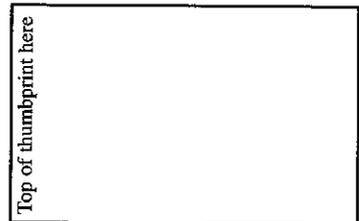
07.13.2016
DATE OF DOCUMENT

ABSENT SIGNER (PRINCIPAL) IS REPRESENTING:

NAME OF PERSON(S) OR ENTITY(IES)

RIGHT THUMBPRINT OF SIGNER

OTHER



Norman Lambe

From: nandslambe@yahoo.com
Sent: Sunday, July 10, 2016 2:08 PM
To: Norman Lambe

Sent from Windows Mail

Norman Lambe

P.O. Box 662

Wildomar, California 92595

951-609-3546 Home Phone Number

714-228-7900 ext. 1159 Work Number

EDUCATION:

College of the Desert, Palm Desert, California

A.A. Liberal Arts

Vice President of the People-to-People Club, also, played baseball.

California Baptist College, Riverside, California

Bible major

Grace Bible Institute, Long Beach California

Bible Major

ACCOMPOLISHMENTS:

Since June 1st 2010, to the present time I have been handling Commercial first Party Property Claims for precision Risk Management in Cypress, California, also Homeowner Association Claims, Restaurant and Motel claims.

From May, 2009 until June, 2010 I worked as a temporary claims adjuster for Mercury Insurance in Brea, California. I handled first party homeowner claims.

I adjuster commercial and homeowner losses from October 2003, 2007 and 2008 wildfire claims with First American Insurance in Santa Ana California.

I have been involved with the adjustment of commercial and homeowner earthquake claims beginning with the Whittier Narrows Earthquake.

I have investigated commercial inland marine losses for trucking lines, also commercial losses involving structural damage; loss of income for restaurant and retail operations.

Investigated, evaluated and adjusted employee dishonesty claims.

EMPLOYMENT HISTORY:

Precision Risk Management, Cypress, California

From 06-01-2010 to the present. Tasks includes investigating, evaluating and adjusting Commercial first-party property claims. Condominium HOA claims, and claims for restaurants and motels, all on a first-party basis.

Mercury Casualty Insurance, Brea California

Claims Consultant from 07-17-09 to 05-31-10

Investigated, evaluated and adjusted first-party homeowner claims. (Temporary position)

First American Insurance Company, Santa Ana, California

Claims Specialist, 05-01-2003 to 05-29-2009

Investigated, evaluated and adjusted commercial losses involving the insured's landlord dwelling policy claims, involving fire, theft, vandalism mold and storm related losses. I was involved in handling losses with a General Adjuster Level exposure.

St. Paul fire and Marine, Brea, California

I assisted in the investigation, evaluation and adjustment of commercial claims such as transit, fire, theft and loss of income, along with employee dishonesty. This position involved the supervision of independent adjusters during the claims handling process. I worked for St. Paul as a temporary adjuster for 2 ½ years and then became a permanent adjuster. I left the company to pursue another career path which did not work out.

20th Century Insurance, Brea, California

This was a temporary position lasting for 1 ½ years. I investigated, evaluated and adjusted Earthquake claims for the 20th Century Earthquake catastrophe team. I started with the Contents and Additional Living Expense unit and was eventually promoted to a Construction Consultant which involved damage to dwellings.

PERSONAL REFERENCES:

Personal references will be provided.



Protocol Insurance Services

PO Box 34418
 Las Vegas, Nevada 89133
 (702)838-0537- (702)838-0536 Fax
vincent@protocolinsurance.com



December 3, 2015

Precision Risk Management, Inc.
 Norman Lambe
 P.O. Box 628
 Cypress, Ca. 90630

RE: Insured : Peppertree HOA
 Date of Loss : October 12, 2015
 Claim number : 2015-2031-77A
 Our File : CF155110

ENCLOSURES: Scene photographs, photographs provided by Intertex, list of building residents, correspondence from Las Vegas Home Source, correspondence to Intertex LV, copy of their billing with review comments, correspondence to NV Energy.

INVESTIGATION: Upon receiving this assignment I called the company that removed the old electrical box and installed new: Intertex 702-463-2800 spoke to Josh who explained that they had to cut up the box in order to remove it; has since been disposed of. I questioned him as to the disposition of the meters and was informed that as the meters were the property of NV Energy they took possession of them.

I eventually made contact with Nancy at NV Energy. She looked into the matter and advised they received a call from the electrician requesting they remove the meters. I explained we are looking for an inspection of the meter. She responded by asking we put our request in writing; copy of that correspondence is attached.

BUILDING OCCUPANTS: I called tenant Gregory Novak & Jolene Apelman 619-971-6237 left message – Jolene 's voice mail. 4:53. Called alternate "home" number 702-358-1861 spoke to Gregory; he was at work advised he would call us back at a later time. Other resident is George Paul 702-451-7967- number no good. Called alternate number 702-419-9484 left message.

On November 17 I received a call from George Paul. He resides in 1841. On the date of incident he was watching the 4:00 news suddenly when everything went black. He went outside and saw Nevada Energy who told him they pulled his power because what happened to 1845. He recalls someone was working on the air conditioning when the lights went out in 1845.

For three days he had no power until Peppertree could replace the entire panel which controls all four units. He notes Peppertree tried to do some "Band-Aid" repairs that did not work.

Note- the HVAC company would have been called by the occupant or owner of 1845.

PROPERTY DAMAGE: Pursuant to your request we enlisted the services of another electrical contractor, Adamik Electric who offered their comments on the attached invoice from Intertex. Pursuant to those comments I have sent the attached letter to Intertex requesting they address our inquires; to date we have yet to receive a response.

PROPERTY MANAGER FOR UNIT 1845: Property Manager is Val Higashi 702-255-1923. I Called Val who advised she had information concerning this matter and forwarded the following email:

"The home warranty co. is Old Republic Home Protection. I have CC'd the local ORHP representative on this email.

The work order no. on 10/9/12 was #55197460. The HVAC company assigned to this job was American Home Mech. 702-743-2089. They were there on Sun. 10/11/15 and determined a part had to be replaced. I believe it was a motor (but please feel free to verify this info with Linda). They came back the following day, installed the part, then when the system was turned on, it shut down the power to this property and the next door property. I don't believe there was a fire. The tenant called NV Energy to see if the power outage had anything to do with the meter. The guy that came out was Bob. His cell is 702-544-1398. The home warranty was called again. They sent out an electrician called CanCan Electric. Their contact info is 702-658-6276. Work order for this was #55214821. They indicated that the panel had to be replaced but that we should contact the HOA.

Hope the info helps.

Aloha Ke Akua Ho`omaika`i,

*Val Higashi
Las Vegas Home Source
702-255-1923"*

SCENE INVESTIGATION: The attached photographs depict the subject replacement electrical box. I also photographed another box that was across the walkway from the subject location. It is our best guess that box is an original for comparison.

GENERAL REMARKS: NV Energy has not responded to our request to make the meters available. Intertex has not responded to our request to support their billing. There was clearly work being done on and around the subject location.

There are several directions we can go here but I wanted to get this to you for your review and comment.

Sincerely,

Vincent Panko

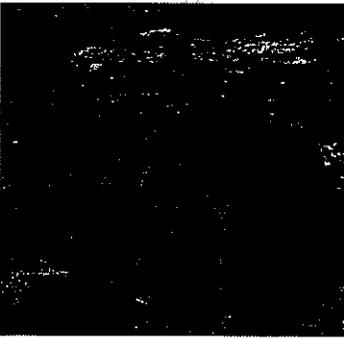
Protocol Insurance Services



Engineering



Fire Investigations



Environmental Consulting



Specialty & Consulting



Catastrophe Response

Forensic Electrical Engineering Report

100 Degrees Hot Pot, LLC
5600 Spring Mountain Road, Suites B, C, D
Las Vegas, Nevada 89146
Claim Number: 77A5001263-00

Prepared For:

Precision Risk Management
c/o 2449 N Tenaya Way, Suite 34418
Las Vegas, Nevada 89133
ATTN: Brenda Blencie
Protocol Insurance Services

EFI Project No. 98380 07024

September 18, 2015

Prepared By:

EFI Global, Inc.
4355 E. Lowell Street, Suite A
Ontario, California 91761
Dirk DeKreek, P.E.

Emergency 24 Hours: 888.888.2467
www.efiglobal.com

EFI 
Global
Complex Issues • Solid Solutions



September 18, 2015

Precision Risk Management

c/o: Brenda Blencie, Protocol Insurance Services
2449 N Tenaya Way, Suite 34418
Las Vegas, Nevada 89133

RE: Forensic Electrical Engineering Report

100 Degrees Hot Pot, LLC
5600 Spring Mountain Road, Suites B, C, D
Las Vegas, Nevada 89146

Date of Loss: July 2, 2015
Claim No.: 77A5001263-00
EFI File No.: 98380 07024

As requested, EFI Global, Inc. (EFI) has completed a forensic electrical engineering investigation at the subject building located at 5600 Spring Mountain Road in Las Vegas, Nevada. Our findings, analysis and conclusions are included herein.

This report contains a discussion of the information gathered during the investigation and an analysis and conclusions with respect to the condition of the subject site at the time of EFI's inspection. The conclusions contained herein are based on information available to date.

This written report is the response to your request for an engineering investigation at the property and should be read in full.

ASSIGNMENT DETAILS and BACKGROUND

On July 30, 2015, a limited inspection of the referenced loss location was conducted by Mr. Dirk DeKreek, P.E., Electrical Engineer for EFI Global, Inc., at the request of Brenda Blencie of Protocol Insurance Group. Mr. DeKreek was accompanied by Tim Lomprey of Lomprey Investigations. The purpose of the inspection was to determine the nature of the electrical fault which occurred at the referenced location on July 2, 2015.

This report includes photos taken during the physical inspection of July 30, 2015, as well as some photos taken during a subsequent joint non-destructive inspection of the meters at NV Energy offices in Las Vegas, NV.

OBSERVATIONS

Site visit on July 30, 2015:

1. New 3-station electric service entrance panel had been installed prior to this date.
2. Panel was equipped with three new meters. Services were active.
3. Original 3-station panel had previously been recovered from scene and was in possession of Lomprey Investigations, Las Vegas, NV.
4. Non-destructive preliminary inspection of original panel was conducted at Lomprey Investigations to determine whether fault originated inside service panel or inside meters.
5. Meters were not present. Tim Lomprey of Lomprey Investigations indicated that meters had been retrieved from loss scene by NV Energy prior to his first site visit, but that he had recovered the damaged service panel from the scene shortly after it was removed by the electrical contractors performing the repairs.
6. Inspection of the damaged meter revealed that the backplane insulator located directly behind the lower of the three meter sockets had burned where exposed to the meter but not in the corners where it had been shielded from the meter by metal structural members.
7. Backplane insulators on upper two meter sockets (identified as "A" and "B") were intact and undamaged.
8. Two of the four meter socket clips were missing from the lower meter socket assembly, identified as "HP".
9. Arcing had occurred on the remains of the bus bar behind the lower meter socket.

10. Circuit breaker for the lower meter service was intact and appeared undamaged, and carried a rating of 200 amps.
11. Circuit breaker for the center ("B") meter service was missing, and insulator plate behind this circuit breaker had been consumed. ✓
12. Arcing had occurred in the area directly behind the center circuit breaker.
13. No further inspection was performed pending review of the missing electric meters.

Joint inspection at NV Energy facilities on September 2, 2015:

14. NV Energy produced the three meters reportedly removed from the scene, along with several photographs of the meters and service panel taken before removing the meters.
15. Tim Lompfrey of Lompfrey Investigations transported the original service panel to NV Energy so that all items could be inspected at one time.
16. It was agreed that the inspections of the offending electric meters would be limited to non-destructive examination since the meter manufacturer (Sensus) was not present.
17. Inspection of the three electric meters revealed that all were of similar design, although the meter from the lowest position ("HP") was damaged and sooted up so severely that no identification data was legible.
18. It was noted that the replacement meters now installed at the loss location were of a different manufacturer (Landis & Gyr) than the original meters.
19. The meter socket clips of all three sockets were inspected for clearance. Socket clips for the "A" and "B" sockets were tight, with no measureable clearance, but the two remaining clips for the lower socket ("HP") were spread apart and measured approximately 0.1 inch clearance.
20. The remaining two clips from socket "HP" were found attached to the male blades on the rear of the associated and severely damaged meter.
21. Melt pattern on the plastic rear of the damaged "HP" meter included an oval-shaped opening directly below the upper two blades, centered and extending approximately from blade to blade.
22. A caliper was used to measure the dimensions of the male blades on the two undamaged SENSUS meters from services "A" and "B". Blades were found to be 0.95 inches thick and .75 inches wide.

23. All three meters had been secured by locking collars, which were produced by NV Energy in conjunction with the meters themselves. These collars require a special tool to unlock, a tool typically possessed only by power utility personnel.
24. Inspection of meters and photographs indicated that all three meters were properly inserted into sockets at sufficient depth and had been secured by locking collars, effectively ruling out any possibility of poor contact due to partial insertion.
25. Closer inspection of area of missing socket clips in "HP" socket indicated that arcing had occurred as meter pulled away from socket, with the upper two socket clips and a small section of bus remaining attached to the meter.
26. Left and right upper clips on damaged "HP" meter were similar in size and appearance, and exhibited similar amounts of bus bar remaining attached to the clips.
27. Power flow through electric service panel and meters is top to bottom, with one of the two incoming power lines entering each meter on the top left blade and the other entering each meter on the top right pin. Power leaves each meter on lower two blades and then extends via bus bar to associated 2-pole circuit breaker mounted directly below each meter.
28. Each meter socket area is protected from adjacent service by metal partition.
29. The "HP" designation refers to "House Panel". The heavy electrical loads in this panel are on the "A" and "B" circuits, which support, among other loads, restaurant and HVAC equipment. The load on the "HP" house panel is primarily lighting and security systems for the common areas of the building.

ANALYSIS

The condition of the eight meter socket clips on the upper two meter sockets (services "A" and "B") indicated that they were tight and made positive contact with the meter blades, as indicated by the measurements of the blade thickness (0.95 inches) and the socket clip aperture (zero). The two surviving meter clips present at the lower socket (service "HP") were relaxed and measured an aperture of approximately the thickness of the meter blades. Given the secure location of all these sockets behind locked meter collars, it would be extremely unlikely for one socket to become damaged by external forces independent of the other two. More likely, the relaxation of the clips in the "HP" socket was due to heat produced at the time of the fault.

Evidence of arcing behind the "HP" socket confirms that sufficient heat would likely be produced to heat and relax the metal clips at this location. Further evidence supporting this position is provided by the finding of the missing two clips still attached to the "HP" meter

blades. This is significant, because these are the two lower clips carrying the load current for both lines to the circuit breaker below. These clips remained attached as the meter case melted and pulled away from the panel, most likely because they were below the origin of the heat.

Inspection of the insulated board in the panel at the "HP" meter location reveals that this insulator burned away, leaving only a residue of fiberglass supporting fibers. This insulator originally supported the four meter socket clips. Closer inspection reveals that the corners of the insulated board extending beyond the sheet metal mount were not burned, clearly indicating a heat origin coincident with the meter location, not above, below, or beside this location.

Inspection of the upper two meter socket clips, still attached to the "HP" meter blades, indicates symmetrical arcing on both legs. This is inconsistent with poor socket connections or loose bus connections inside the panel, which would invariably result in a one-sided fault pattern favoring one side over the other. It is, however, entirely consistent with the expected arc pattern that would result following exposure to open flame from burning plastic, such as the rear surface of the power meter. Supporting this argument is the presence of a molten-away and partially burned-away opening in the plastic rear face of the "HP" meter, neatly centered just below the upper two socket clips and blades.

The presence of arcing behind the "B" circuit breaker is the result of the insulator board burning away that separates the circuit breaker bus bars from the sheet metal panel structure directly behind it. It is located immediately above the "HP" meter socket and would be exposed to the heat and flame from a burning meter or insulator board below, since the metallic partition separating the "B" circuitry from the "HP" circuitry had a small gap at the point where it connects to the face of the panel.

The "B" circuit breaker is visible lying in the base of the panel, unconnected, in the photos provided by NV Energy at the time of the September 2 inspection. It is of the push-on type, held in place on the bus bars by compression contacts. Once the insulator failed and arcing consumed the bus bars, the breaker would become detached from the panel and would be connected only to the outgoing conductors. The photos clearly show that these conductors had been disconnected and the breaker intentionally placed in the panel base.

A panel failure originating at the "B" circuit breaker would not explain the damaged "HP" meter, because heat from the "B" breaker location would tend to rise to the "B" meter socket directly above it and sharing the same compartment. A phase-to-phase arc at the "B" circuit breaker location would be driven downward away from the energy source by magnetic forces and then arc to the metallic divider separating the "B" and "HP" compartments, but no such arcing is evident on said divider. The only plausible explanation is that the damage behind the "B" circuit breaker occurred subsequent to, and as a result of, the fault occurring at the "HP" meter location.

The inner workings of the suspect "HP" meter were not examined, since it was agreed that any activity beyond physical inspection of said meter would be deferred until such time when a representative from the meter manufacturer (Sensus) is present. However, the only possible explanation for the referenced fault that is consistent with all the observed evidence is that a severe overheating occurred inside the meter serving the "HP" section of the panel.

Additionally, it should be noted that this meter is of the new "smart-meter" variety, which differs from the original electro-mechanical meter that it replaced in at least three significant ways:

- ✓ A. The new meter has a plastic case, whereas most of the older electro-mechanical meters had glass cases. The plastic cases are clearly subject to melting and burning, as evidenced by the condition of the meter from the "HP" section of this panel.
- ✓ B. The new meter has a remotely-operable switch inside that allows the power to be disconnected by the utility company from a remote location. Older electro-mechanical meters typically were not equipped with such switches. Switch contacts have the potential to make poor contact and generate heat.
- ✓ C. The new meters have a complex circuit board internal to the meter to support wireless communication, metering functions, and the operating driver for the remote power disconnect switching function mentioned above. The only power available to support these functions is the incoming 120/240-Volt line power or a backup battery internal to the meter. Circuit board fires in general are nothing new to forensic investigators. They have been well-documented as fire causes in computers, home appliances, and commercial appliances, to name just a few.

Finally, it should be noted that the area where the fault occurred is not accessible to the building owner or electrical maintenance personnel, since it is behind a utility-company-owned meter that is secured with a locking band also provided by the utility company. This implies that any "wear and tear" in the subject secure space, whether to the panel or the meter, is extremely unlikely to occur in the first place, and would be unlikely to have been caused by anyone other than utility company personnel if it did occur.

The above analysis explains why the fault must have originated within this inaccessible space inside or behind the meter. All indications are that the fault originated inside the meter, but a slight possibility remains that the origin may have been the result of poor contact between the meter blades and the panel socket clips. A detailed destructive examination of the offending meter is indicated to confirm this conclusion.

CONCLUSION

It is the conclusion of this Engineer, based on all available information to date, that the subject electrical fault originated within the power meter serving the "HP" (house panel) portion of the service panel.

QUALIFICATIONS

The information presented in this report addressed the limited objectives related to the evaluation of 5600 Spring Mountain Road in Las Vegas, Nevada. This report only describes the conditions present at the time of our evaluation. It is not intended to fully delineate or document every defect or deficiency throughout the subject property. If any additional information is encountered which relates to this evaluation, EFI reserves the right to alter the opinions contained in this report. In some cases, additional studies may be warranted to fully evaluate concerns noted.

COMMENTS

The instructions have been completed and the file will be closed. It will be maintained at EFI Global and can easily be retrieved. You may contact me through the Ontario Service Center at 800 693 9922.

Respectfully submitted,

EFI Global, Inc.



Dirk A. DeKreek, P.E.
Electrical Engineer

Report reviewed by:

Steve Sanders, P.E.
Electrical Engineer

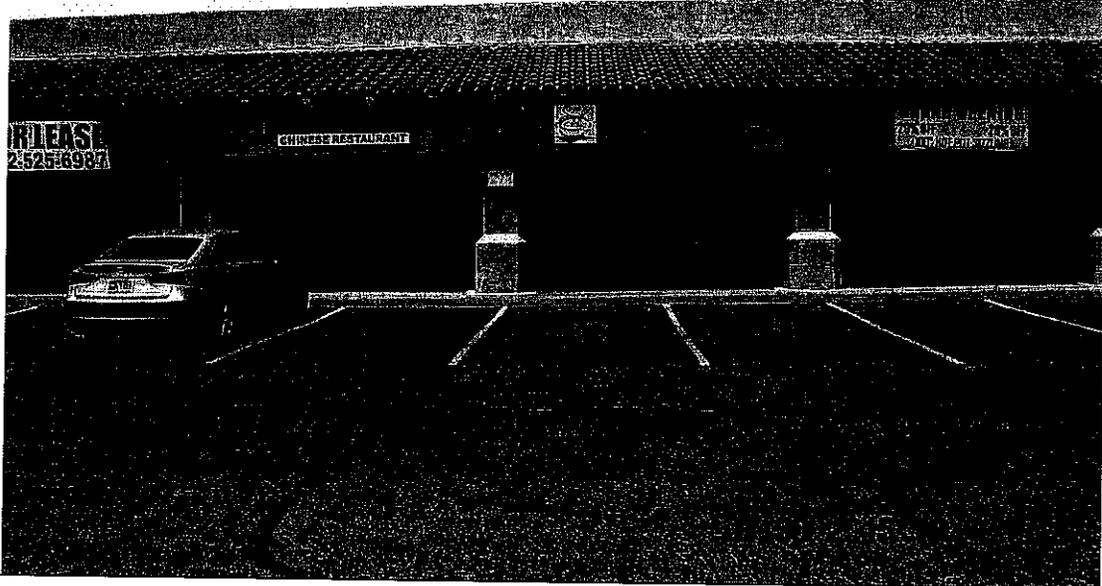


Photo No. 1: Loss Location at 5600 Spring Mountain Road, Las Vegas, NV 89146

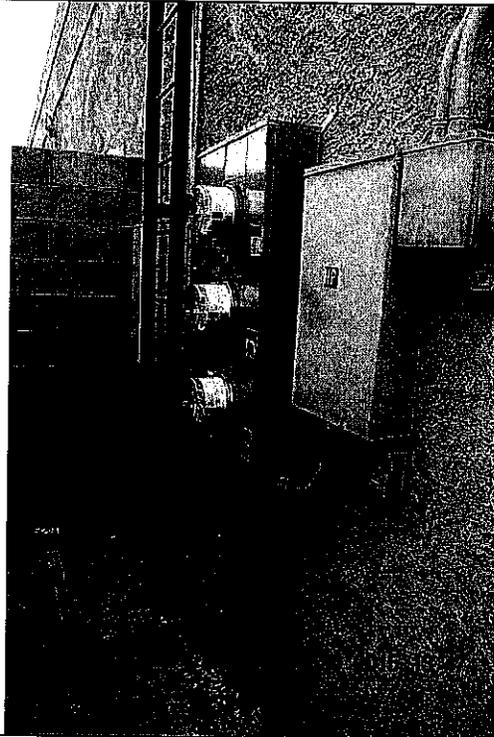


Photo No. 2: Replacement panel with new meters (loss date was July 2, 2015)



Photo No. 3: Replacement power meters (note mfg. is Landys + Gyr)

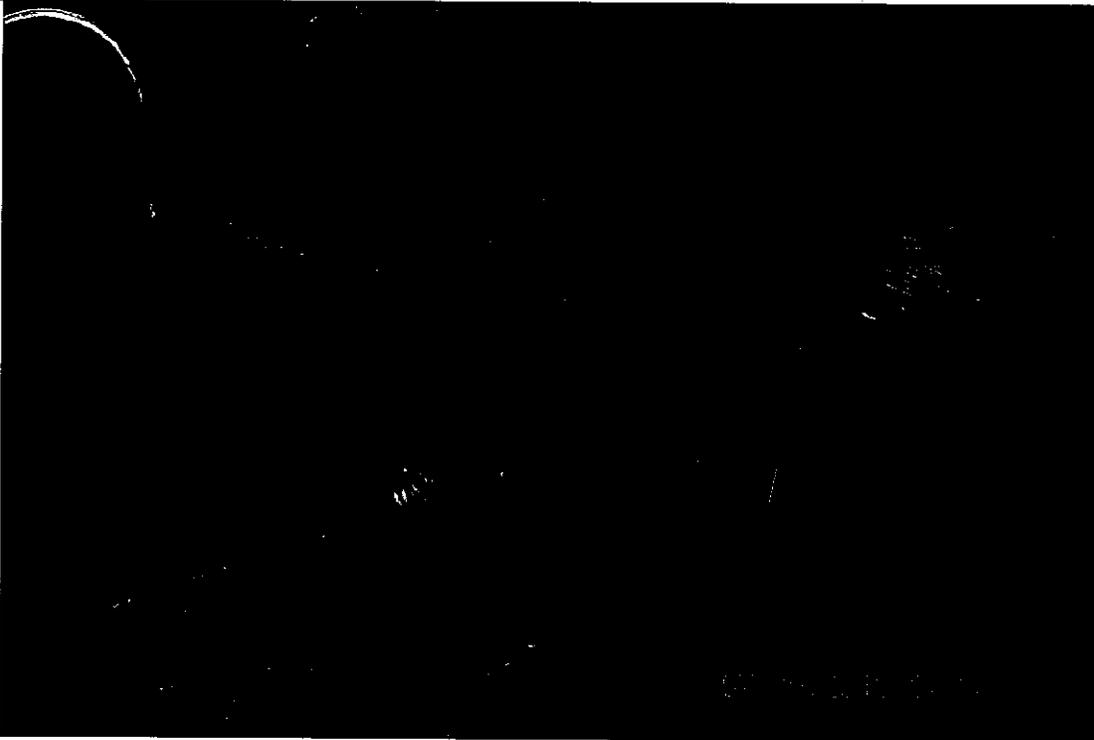


Photo No. 4: Original panel collected by Tim Lomprey from scene.

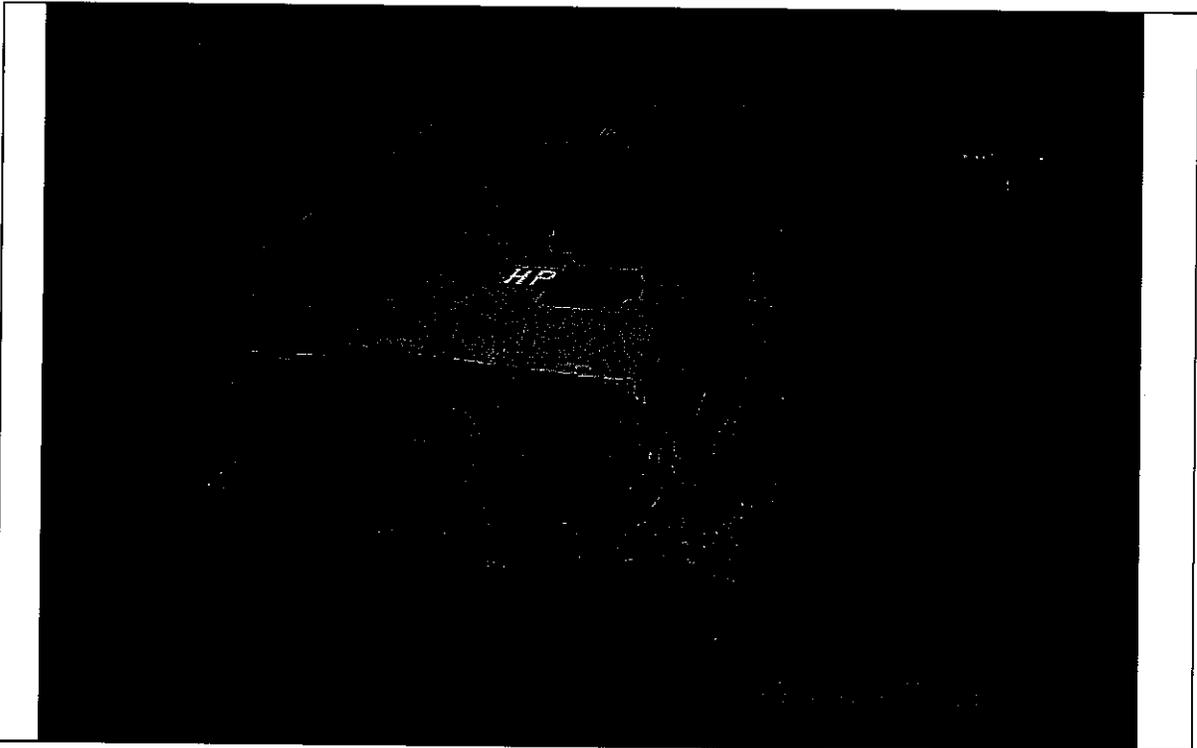


Photo No. 5: Wrap removed for preliminary non-destructive inspection at Lomprey shop

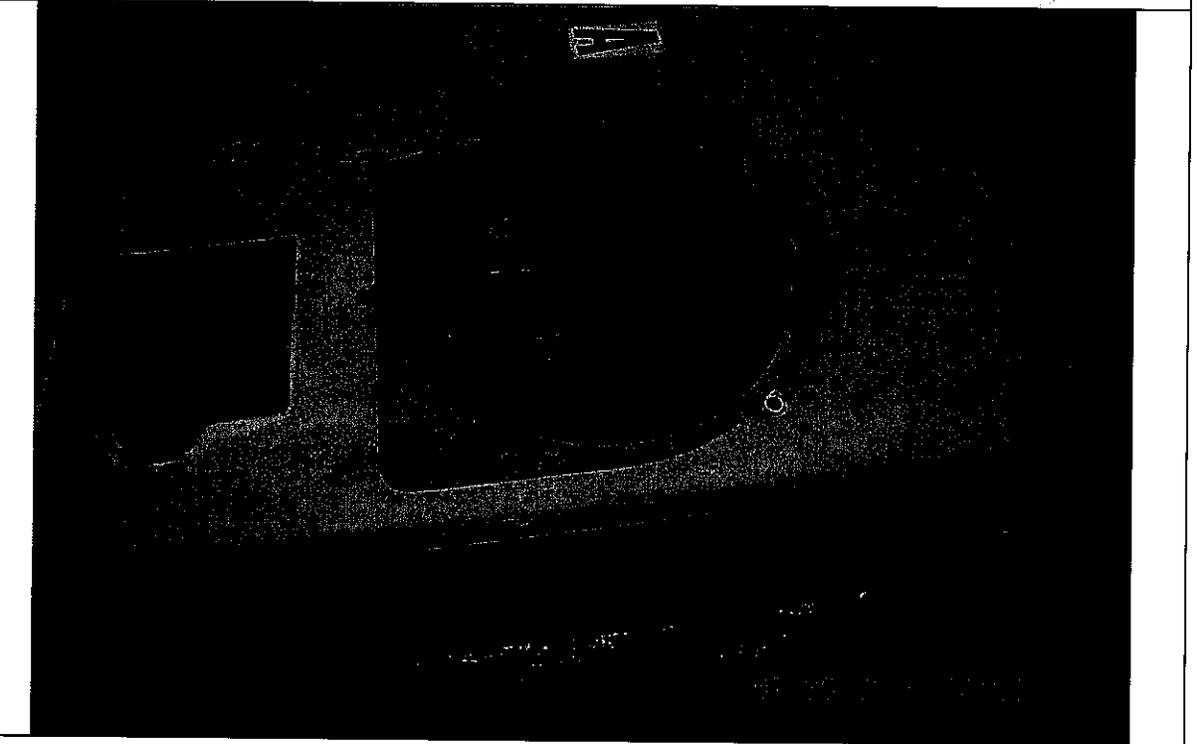


Photo No. 6: Upper Meter Socket

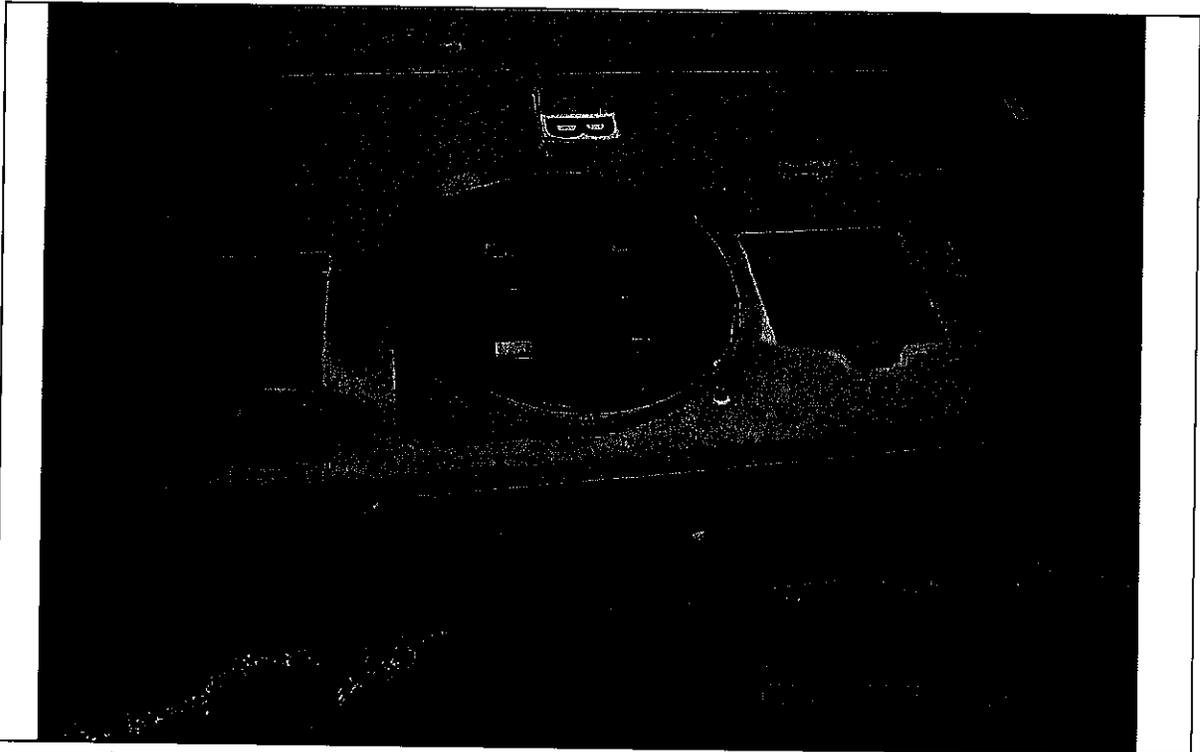


Photo No. 7: Center Meter Socket

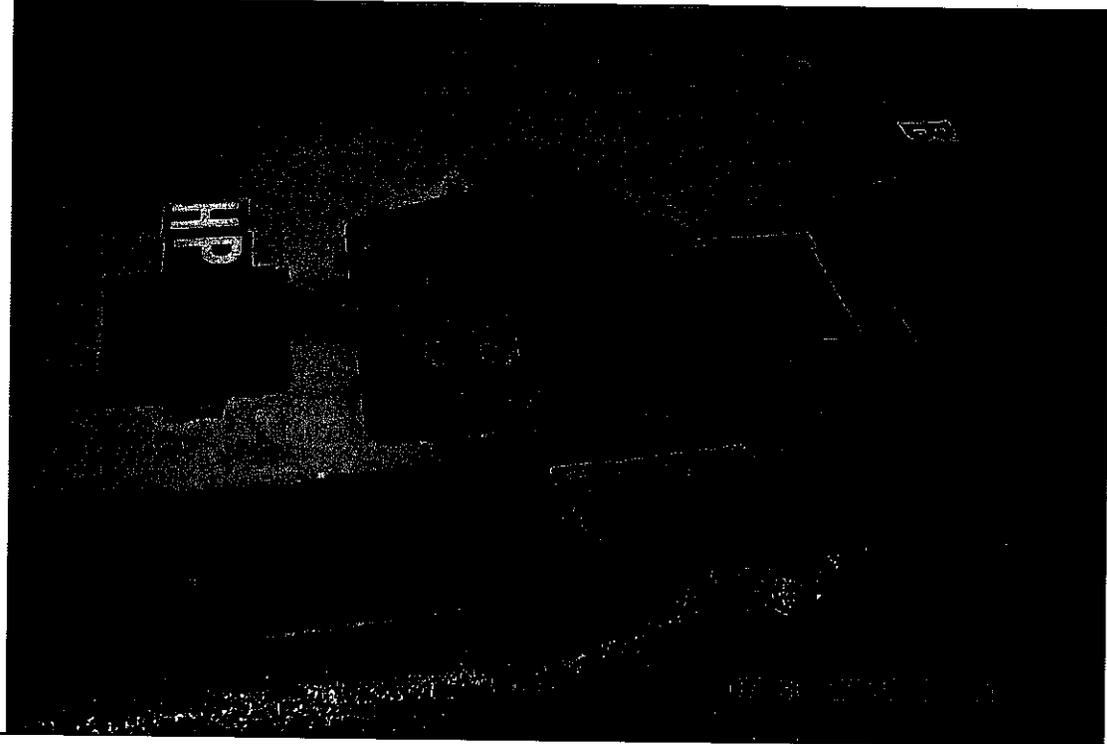


Photo No. 8: Lower Meter Socket – note burned phenolic insulator

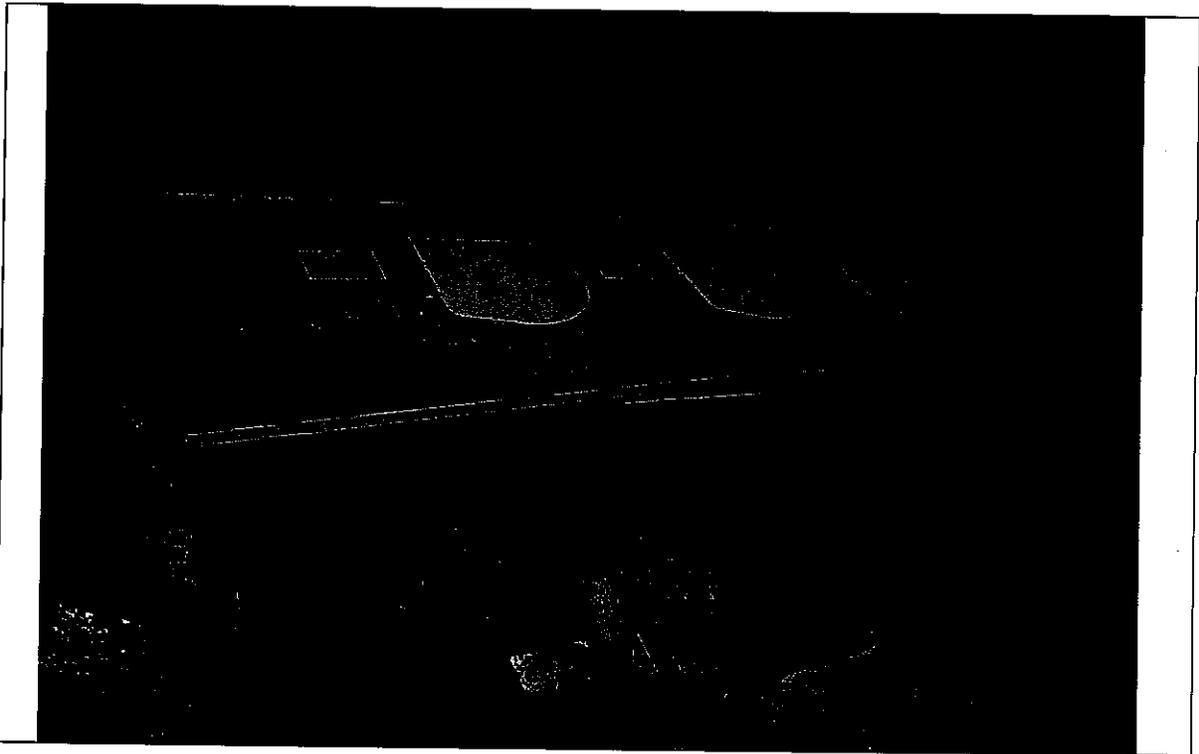


Photo No. 9: Cover opened for interior inspection

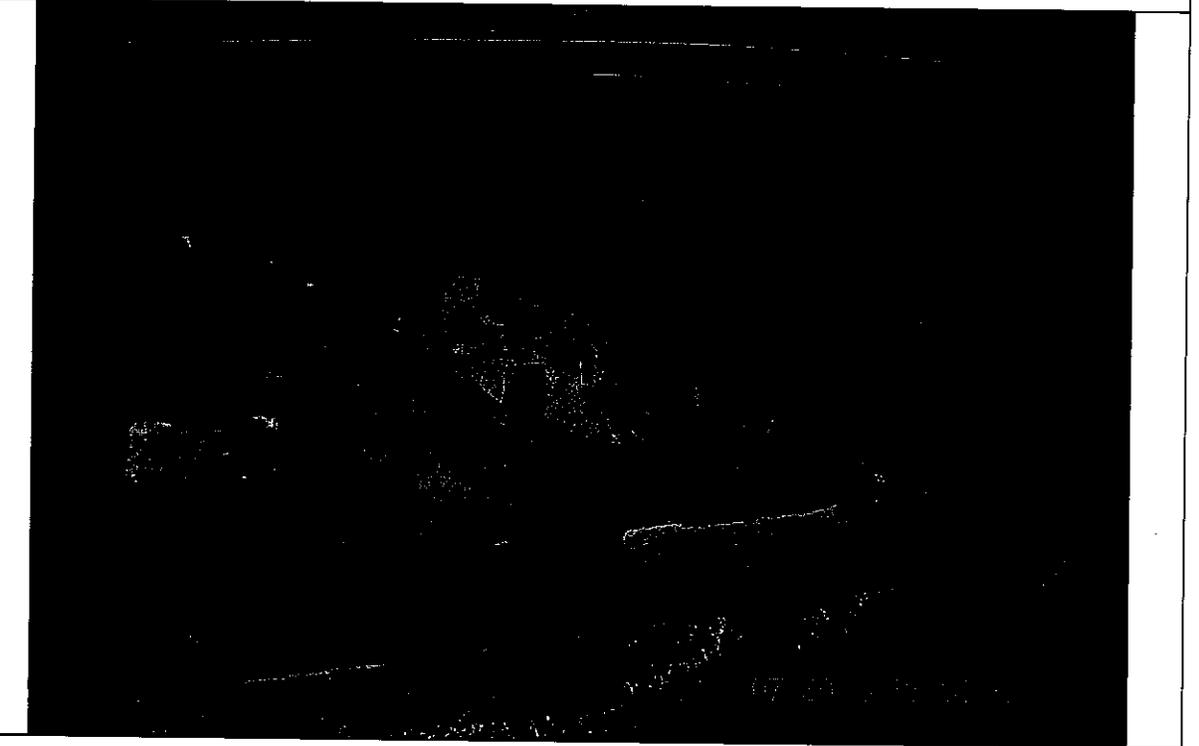


Photo No. 10: Lower Meter Socket and associated 200-Amp circuit breaker (left)

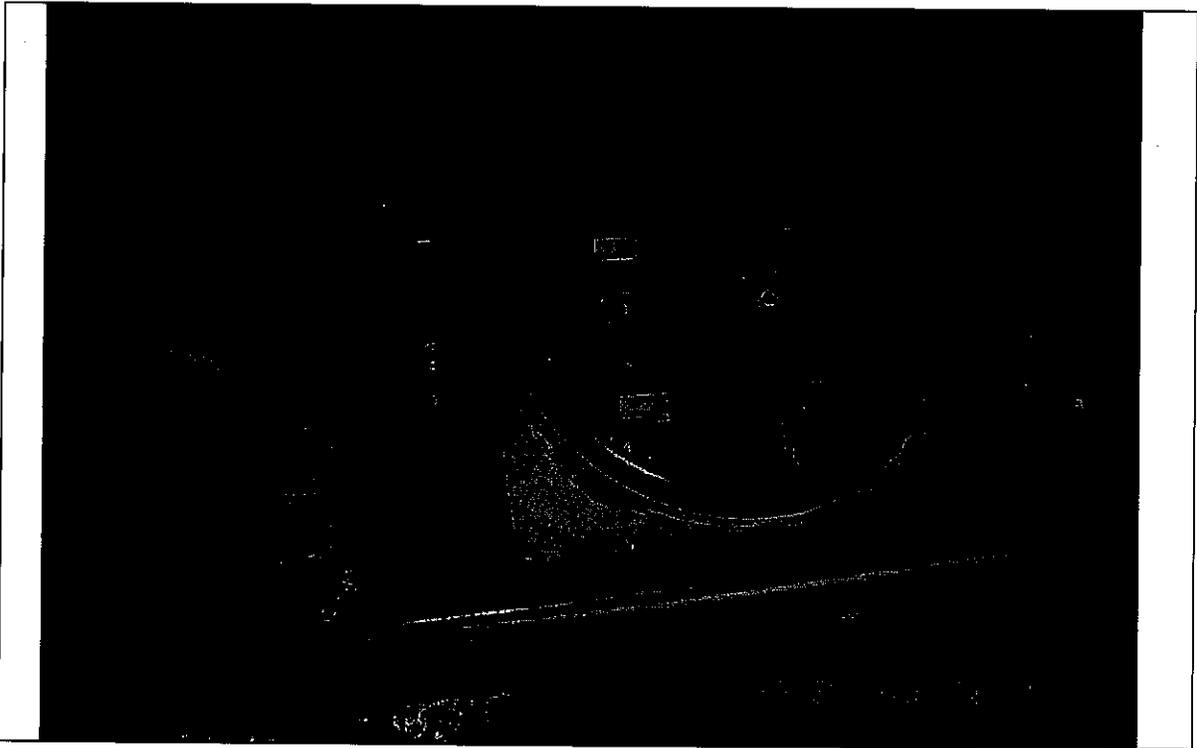


Photo No. 11: Center Meter Socket. Circuit breaker missing, bus arcing evident.

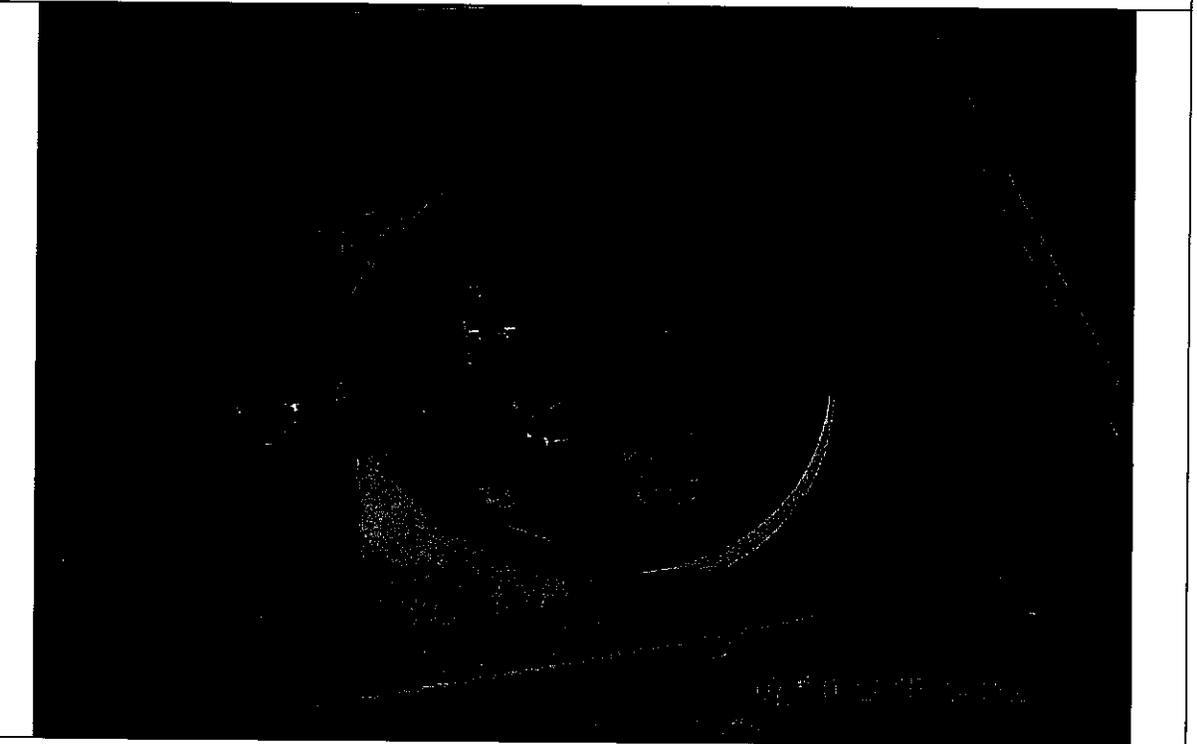


Photo No. 12: Upper Meter Position and associated 200-Amp circuit breaker (left).

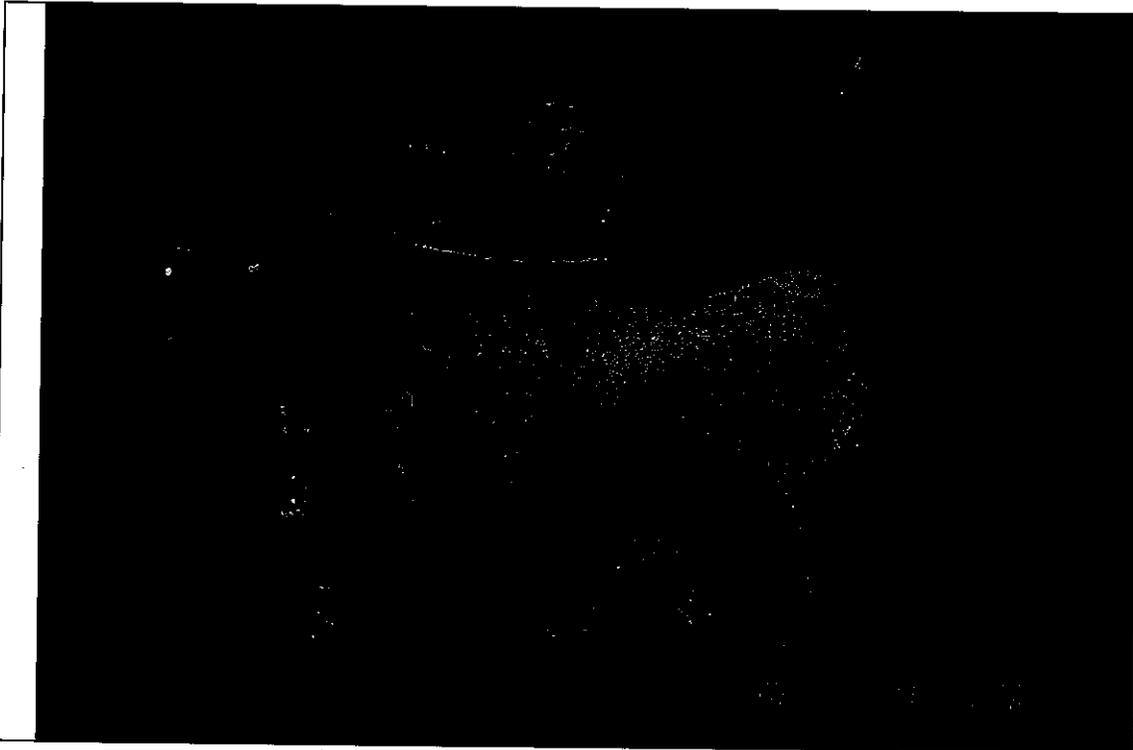


Photo No. 13: Arc area above lower meter socket (location of circuit breaker for center socket)

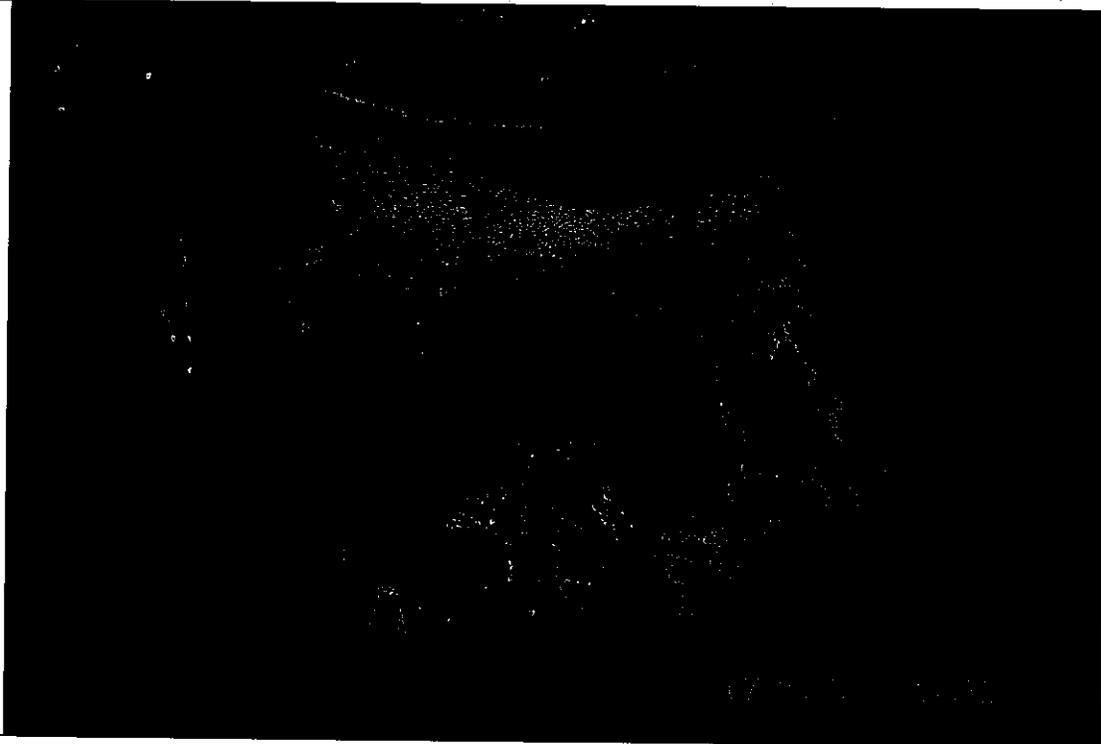


Photo No. 14: Closer view of arc area shows barrier between center CB and lower meter socket

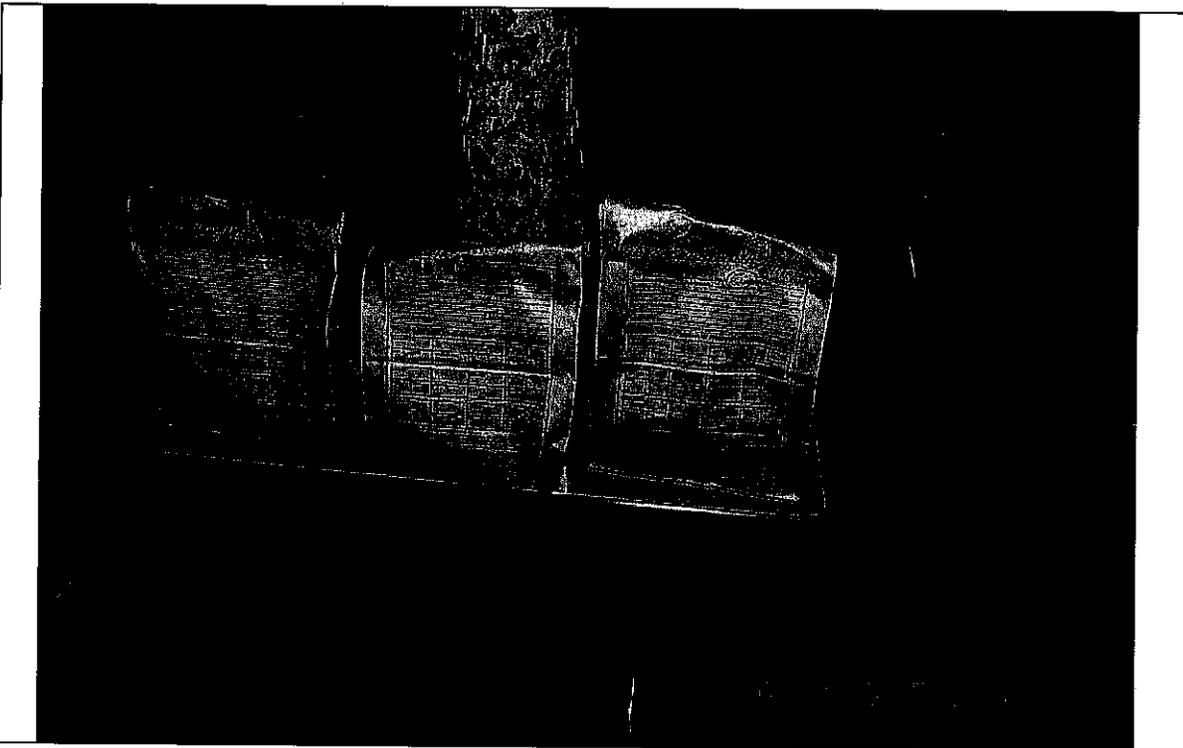


Photo No. 15: Joint inspection of meters conducted at NVEnergy offices on September 2, 2015

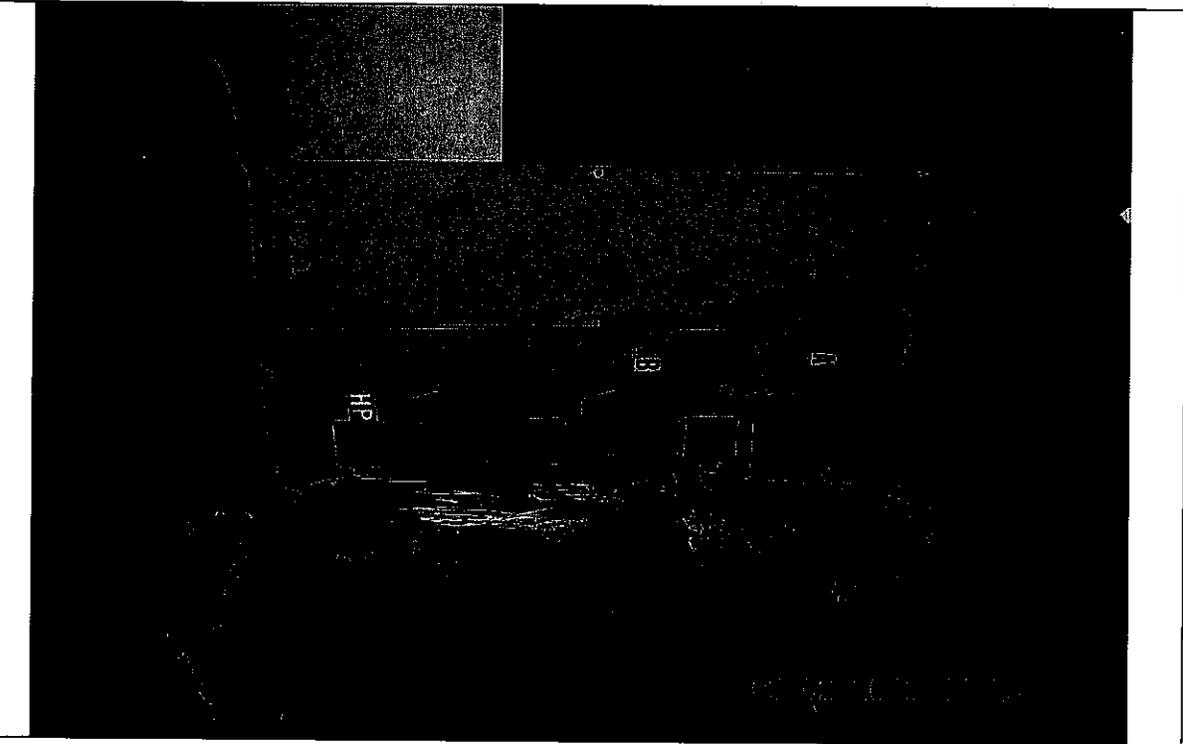


Photo No. 16: Panel was also made available for inspection at NVEnergy

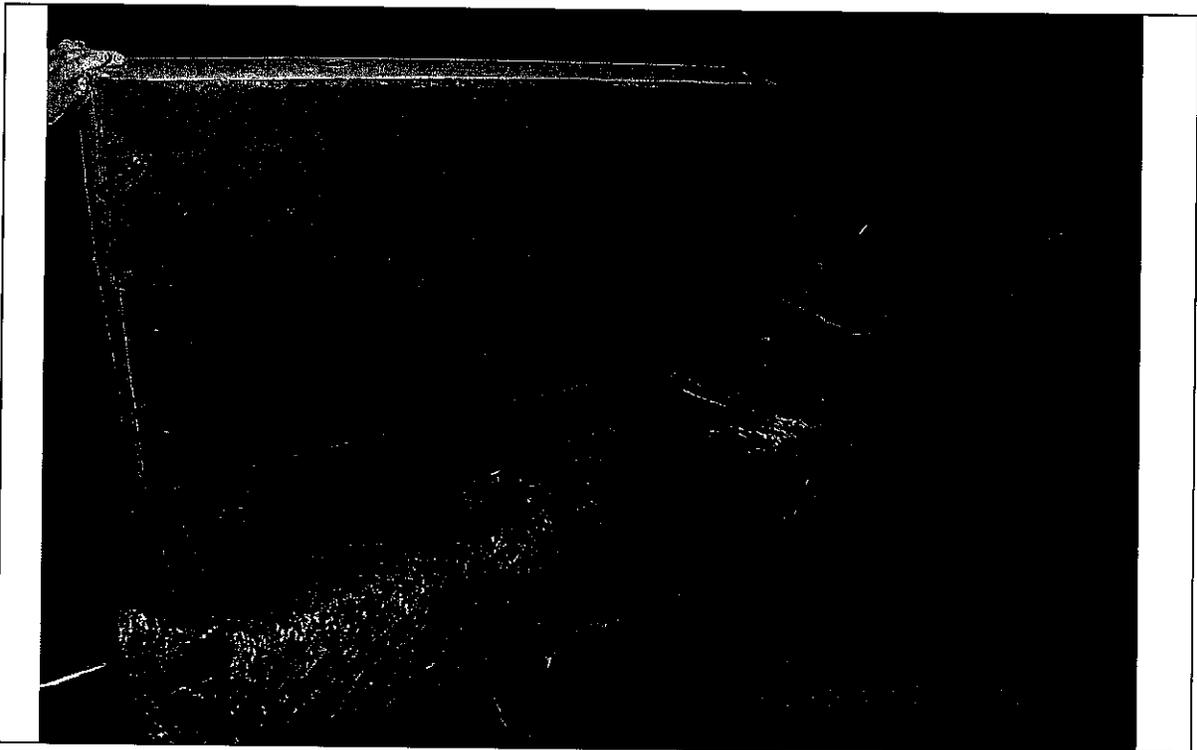


Photo No. 17: Rear of panel – note paint scorch mark coincident with rear of lower meter socket

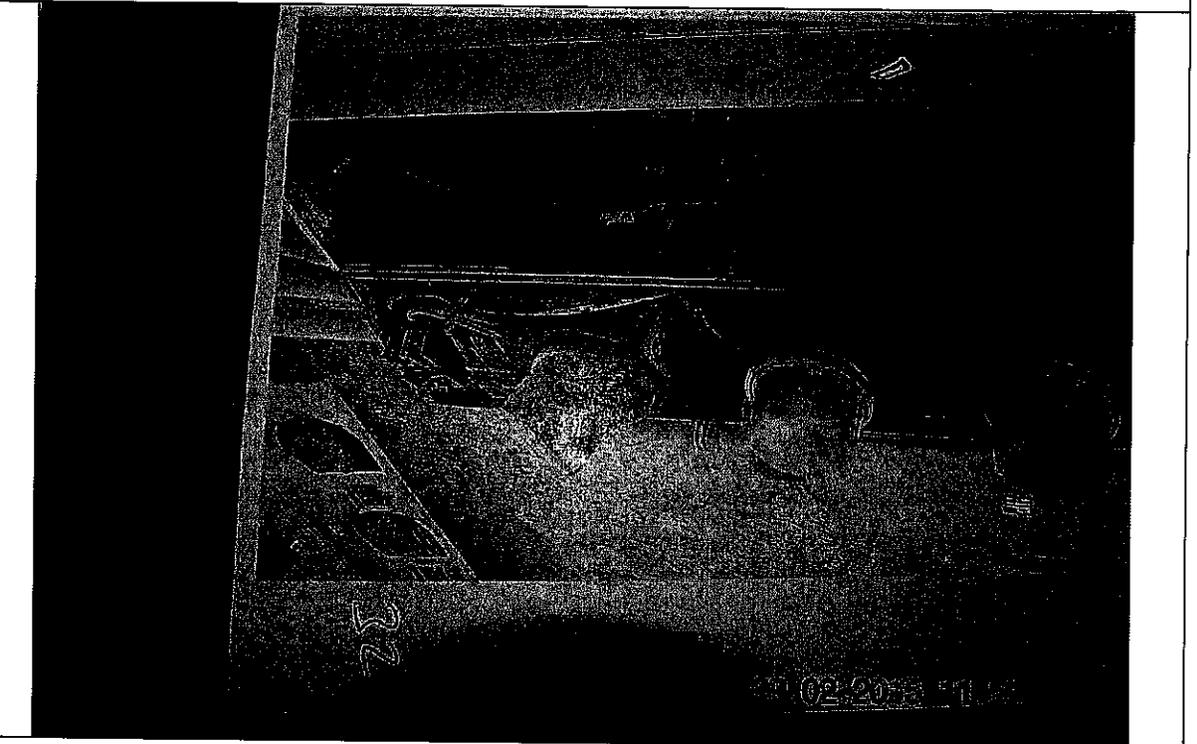


Photo No. 18: Photo provided by NVEnergy of panel and meters as found shortly after loss date

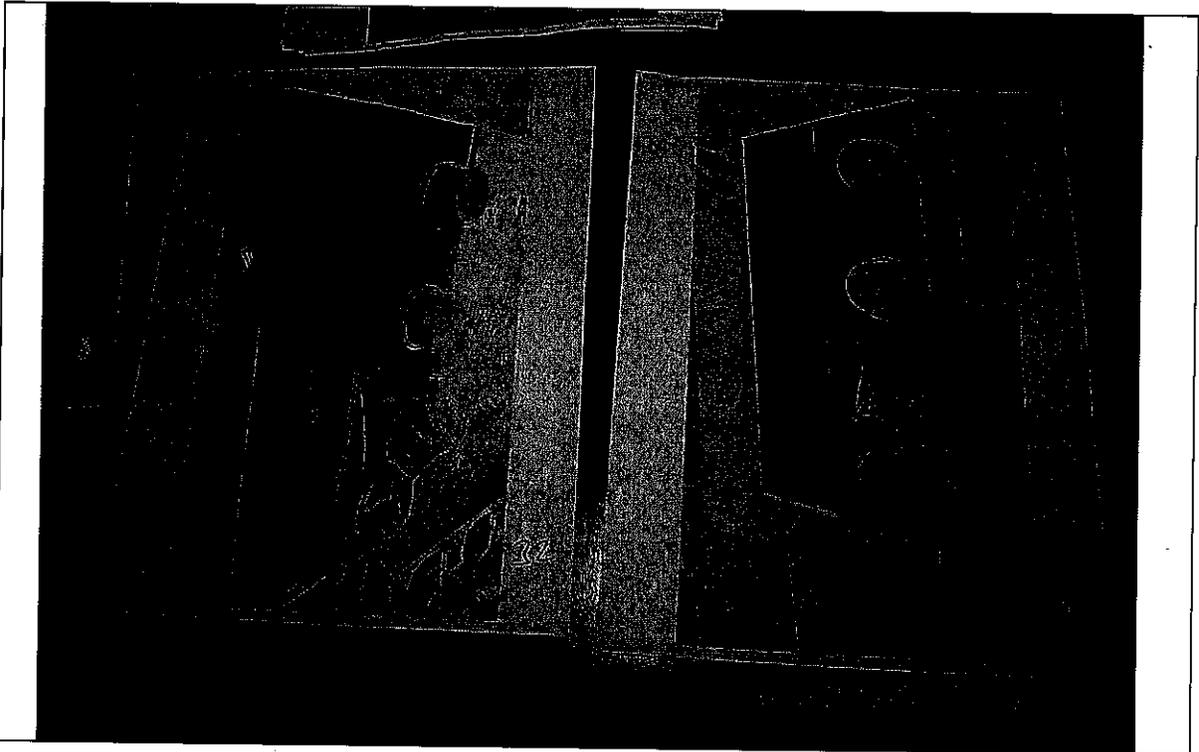


Photo No. 19: NVEnergy photos show circuit breaker from center circuit lying loose at bottom

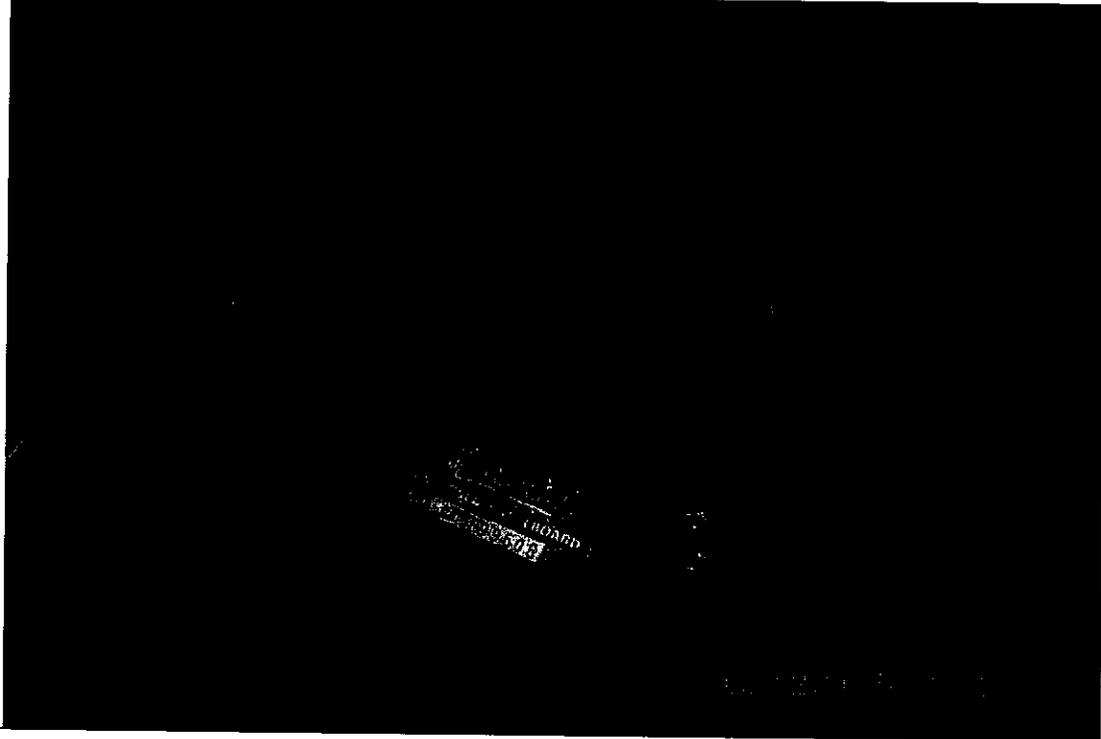


Photo No. 20: UL listing label for original meter service panel

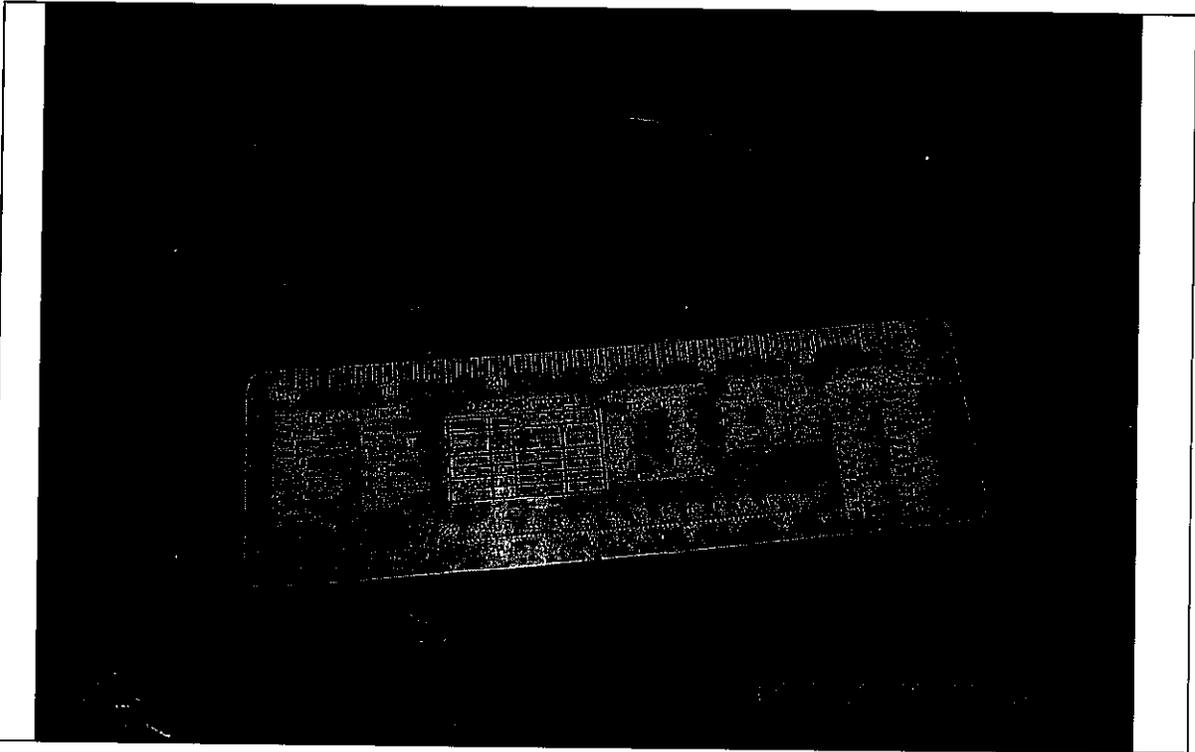


Photo No. 21: Socket clips on panel for center meter position. All 4 present and tight.



Photo No. 22: Socket clips (2) on panel for lower meter position where failed meter resided.

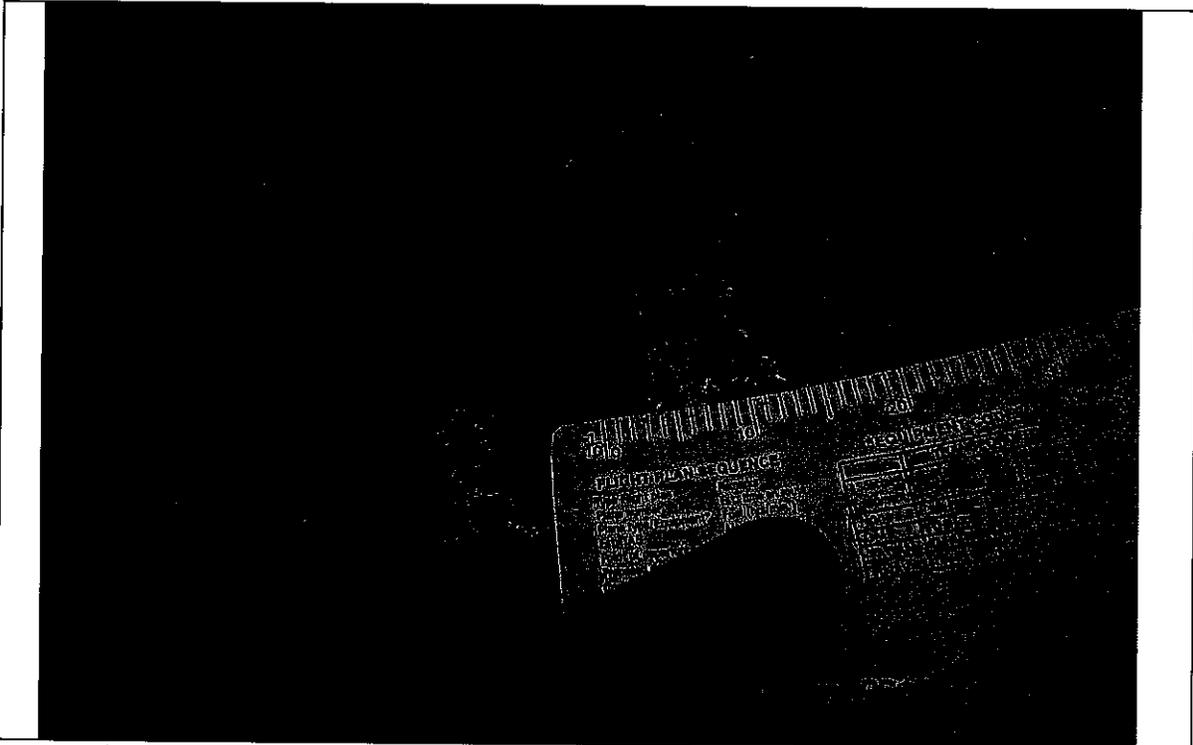


Photo No. 23: Note gap of approximately 0.10 inch on lower right clip (viewed inverted)

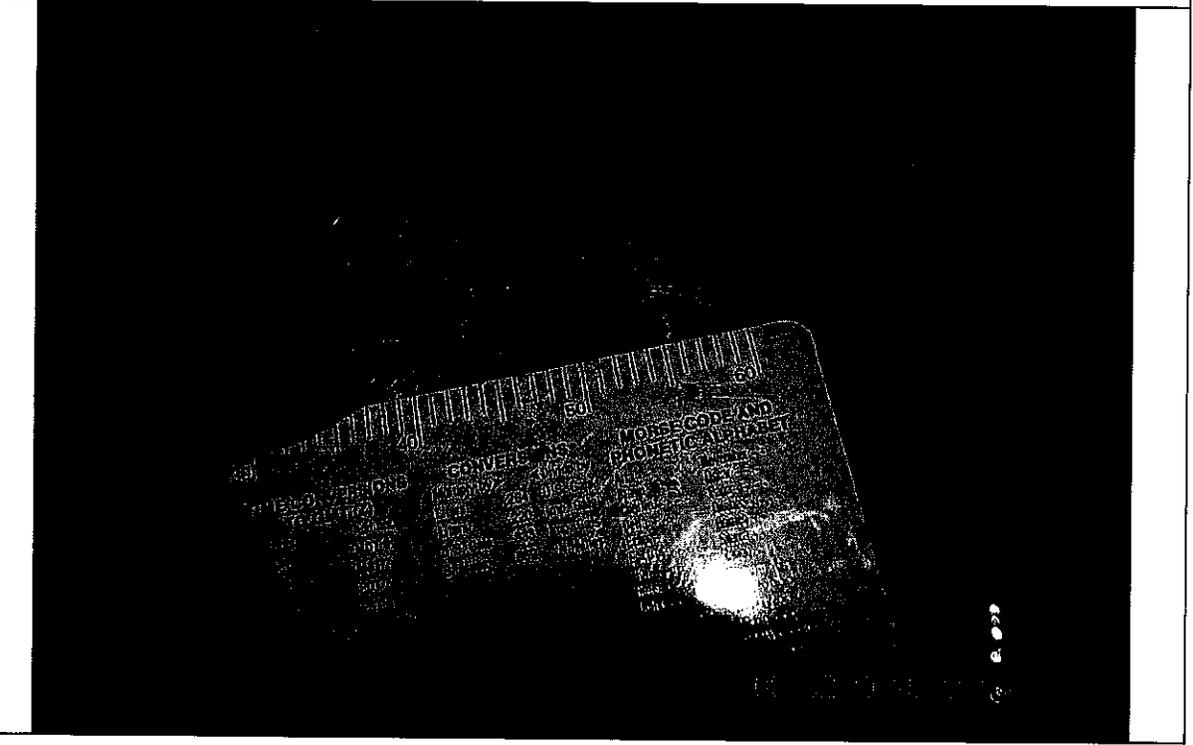


Photo No. 24: Note gap of approximately 0.05 inch on lower left clip (viewed inverted)

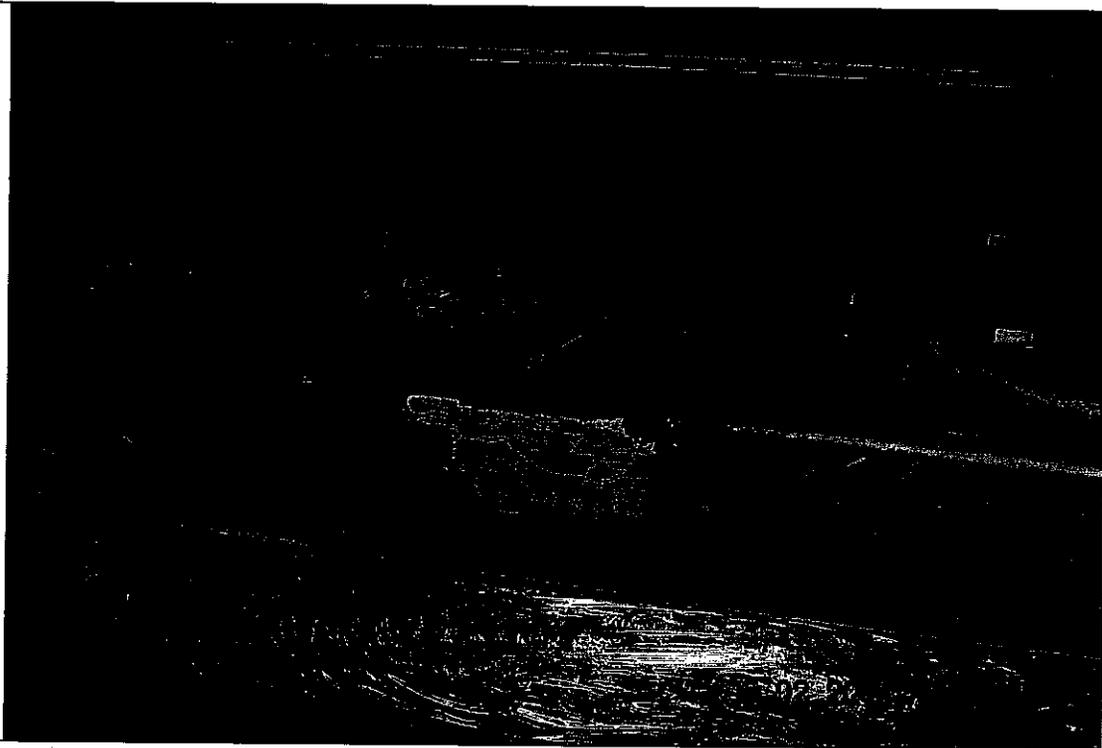


Photo No. 25: Lower meter position as viewed from right side

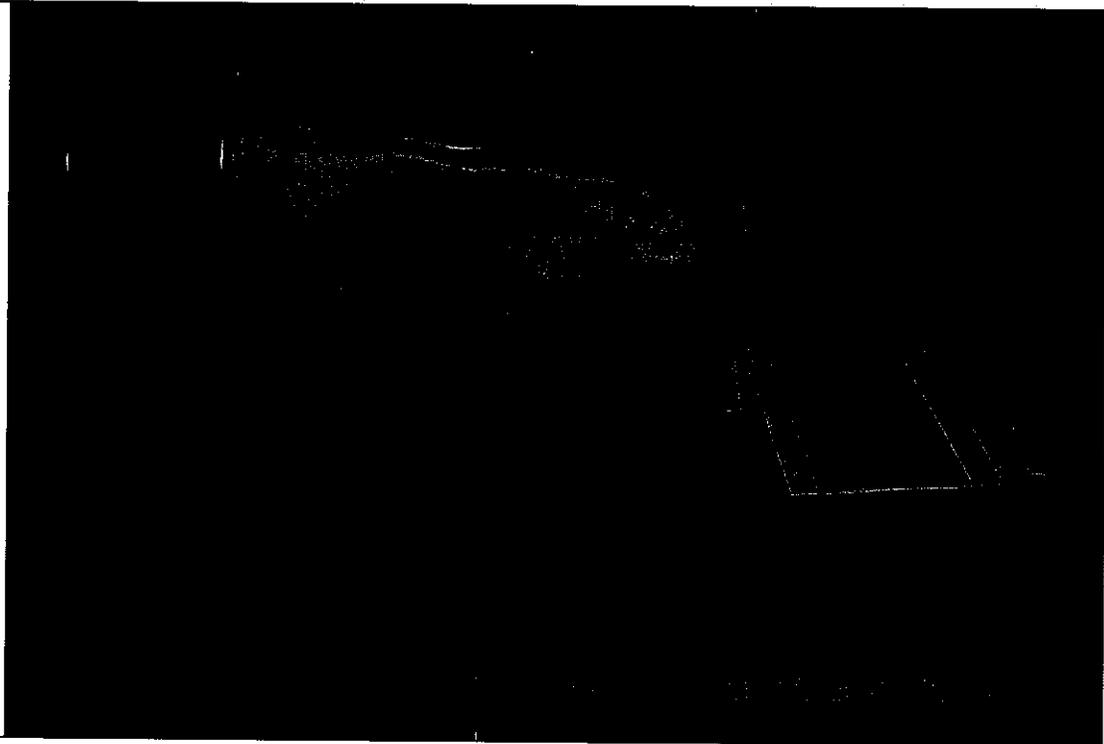


Photo No. 26: Meter from upper position ("A") as collected by NVEnergy

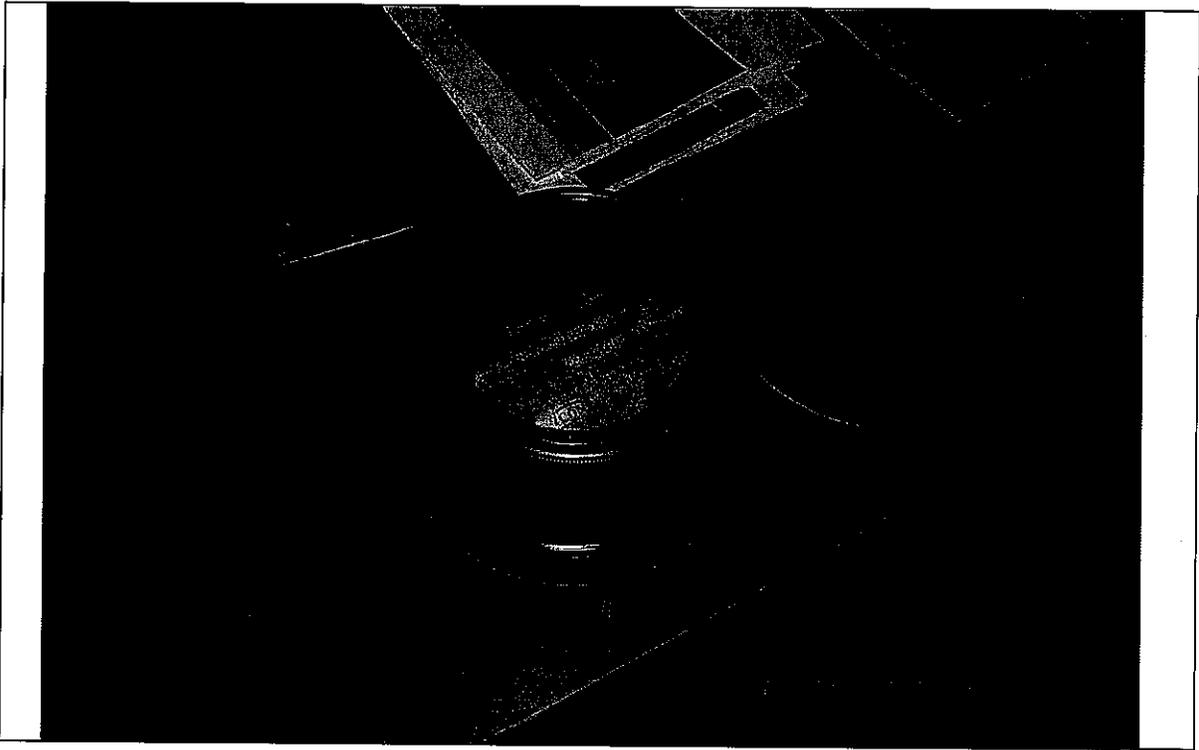


Photo No. 27: Meter and locking band from upper position ("A")

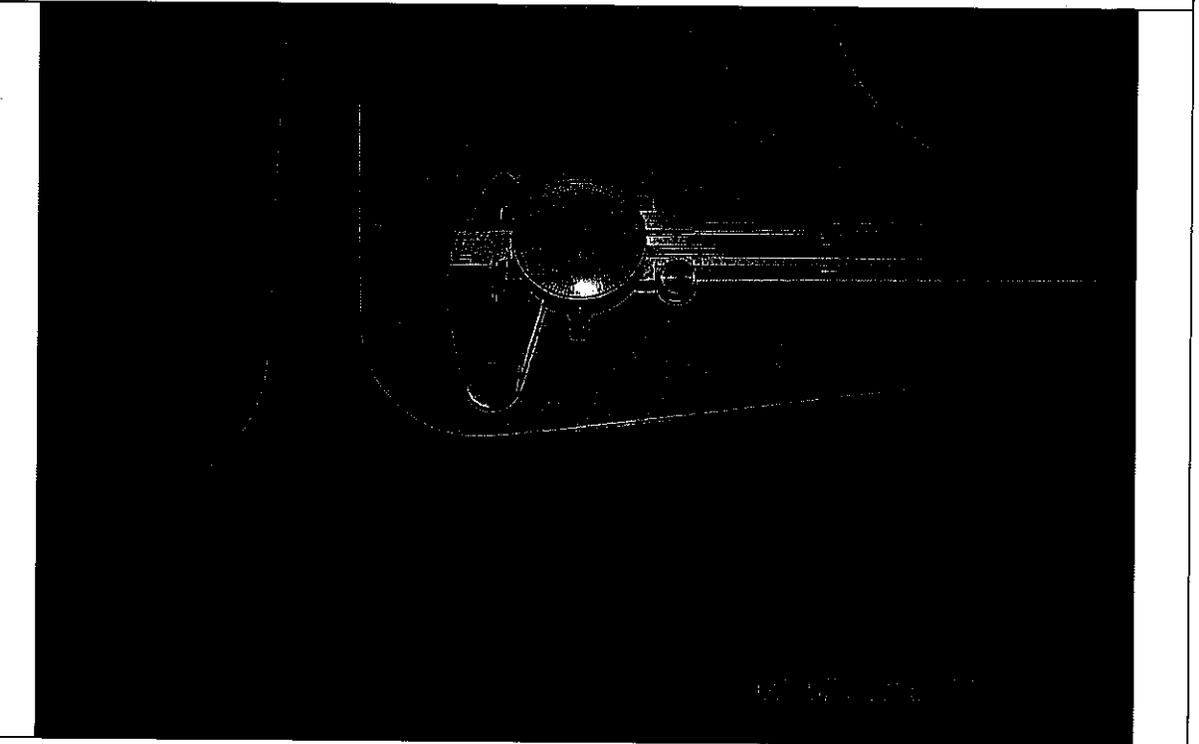


Photo No. 28: Caliper at zero position.

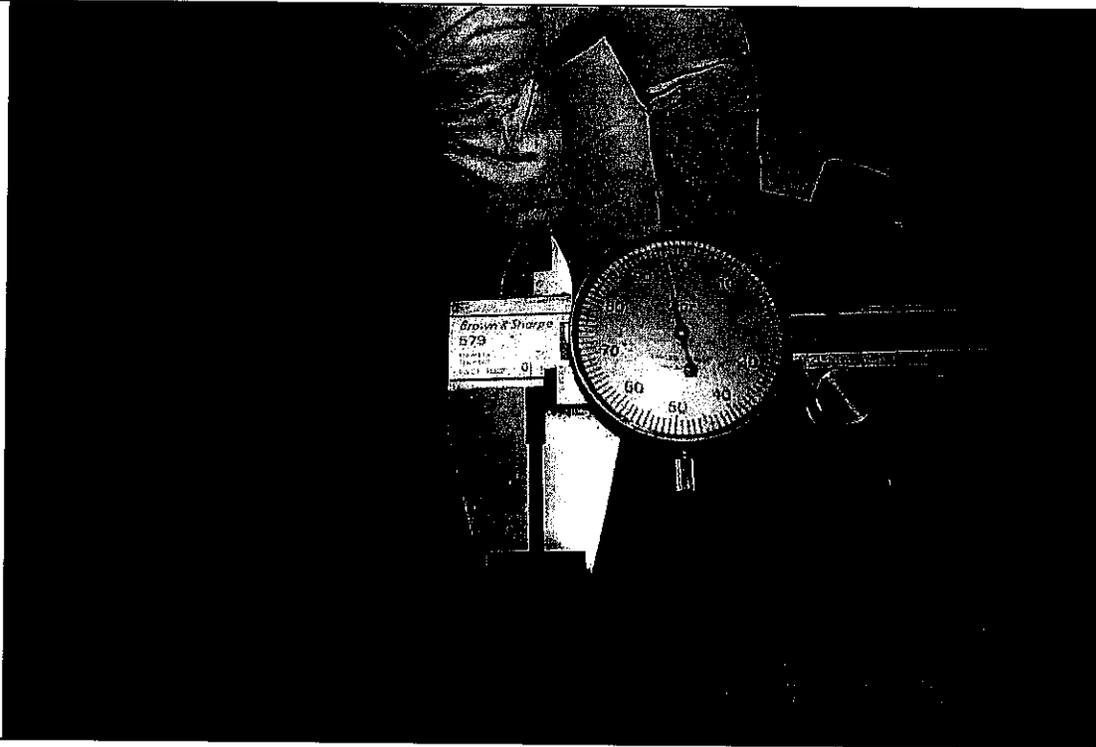


Photo No. 29: Thickness of Meter "A" male blades measured as 0.95 inches

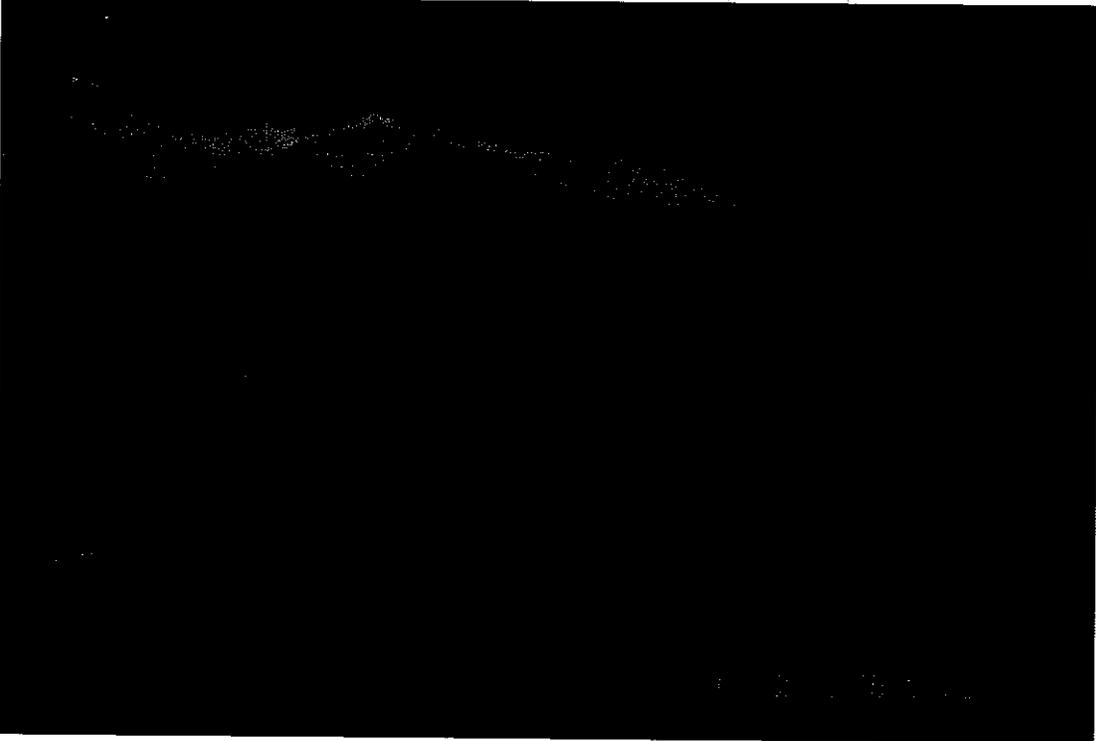


Photo No. 30: Meter from center ("B") position as collected by NVEnergy

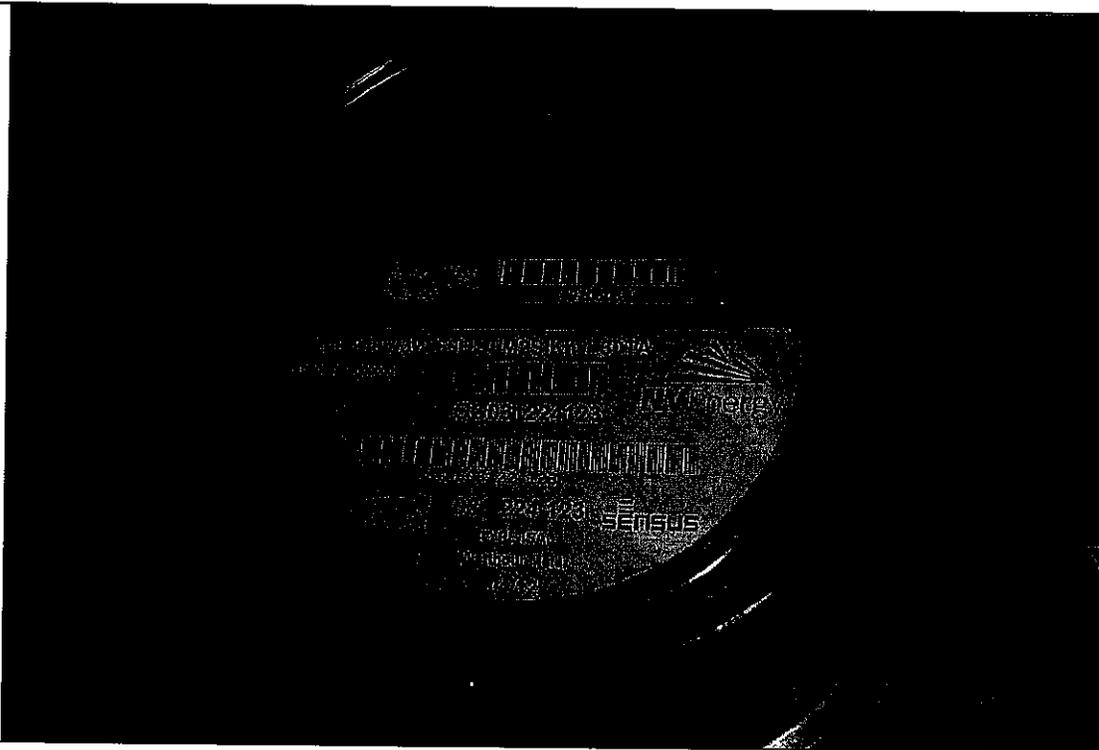


Photo No. 31: Meter face position "B"

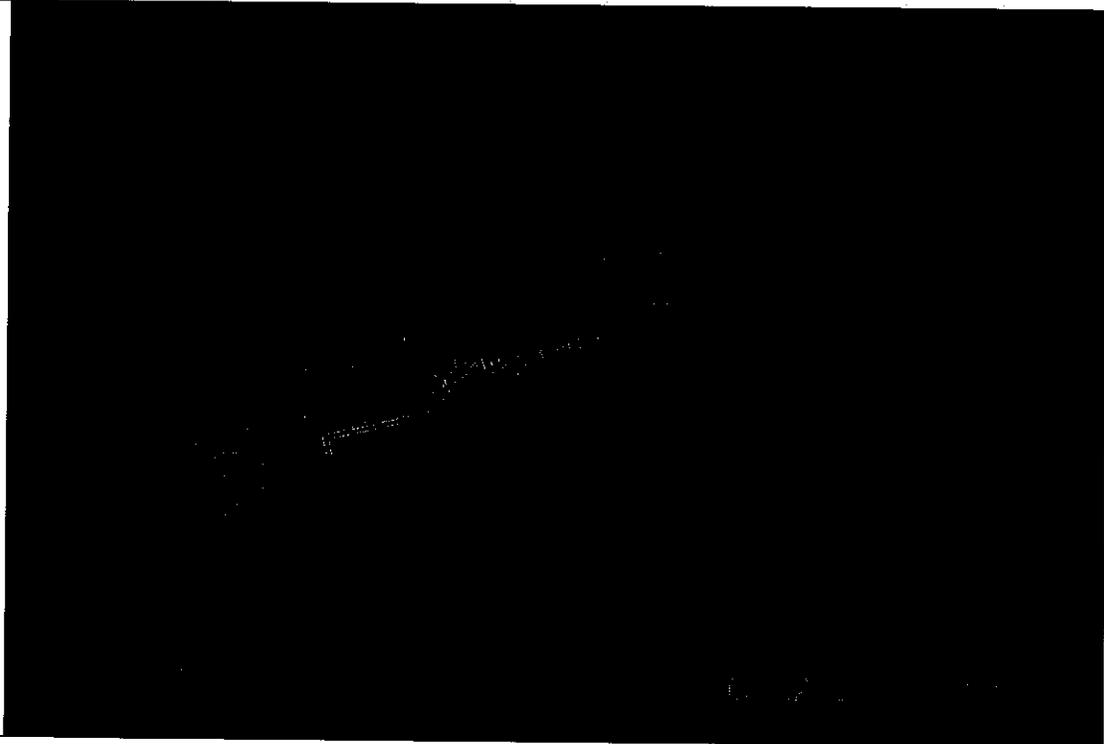


Photo No. 32: Meter from lower socket as collected by NVEnergy

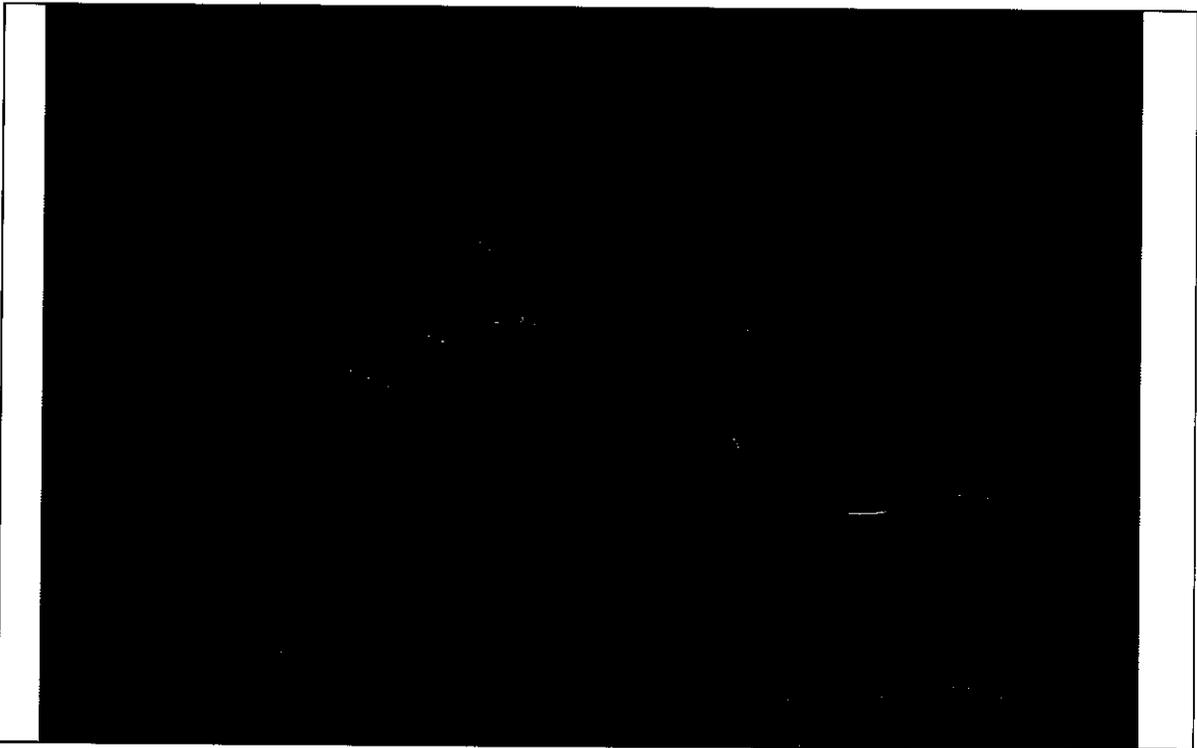


Photo No. 33: Meter and locking band from lower socket as collected by NVEnergy

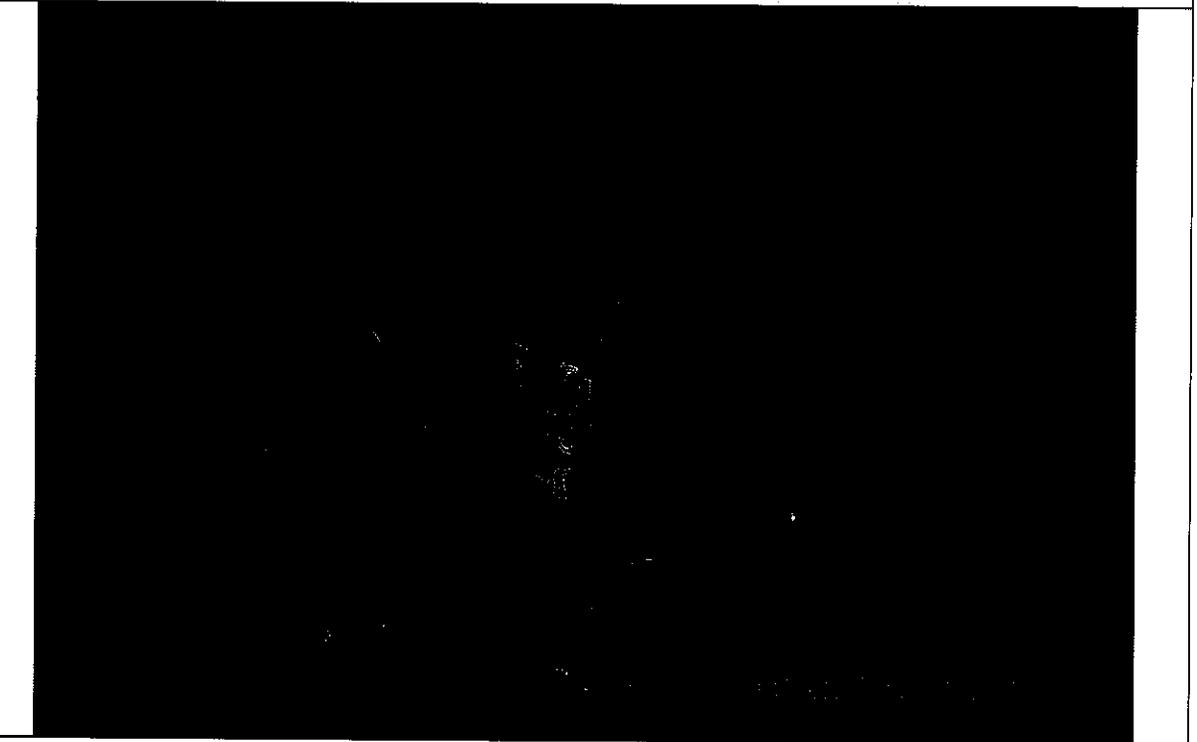


Photo No. 34: Meter from lower socket as collected by NVEnergy

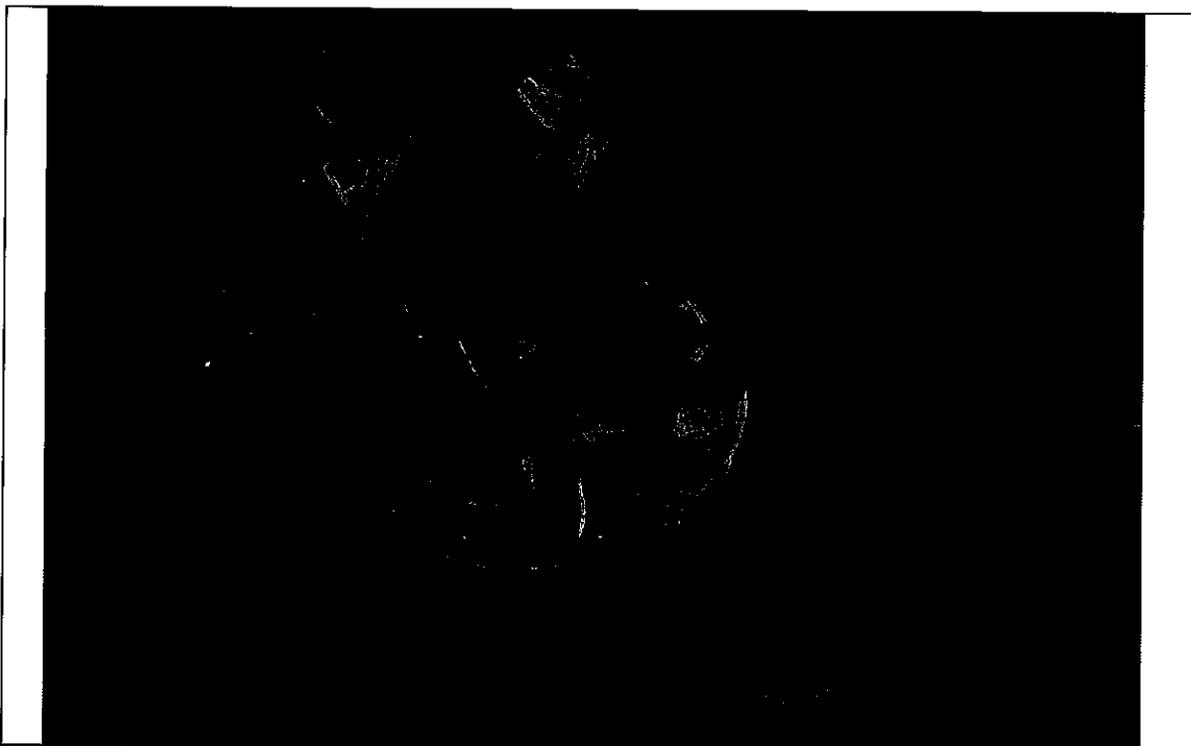


Photo No. 35: Meter from lower socket as collected – note two socket clips still attached to top blades

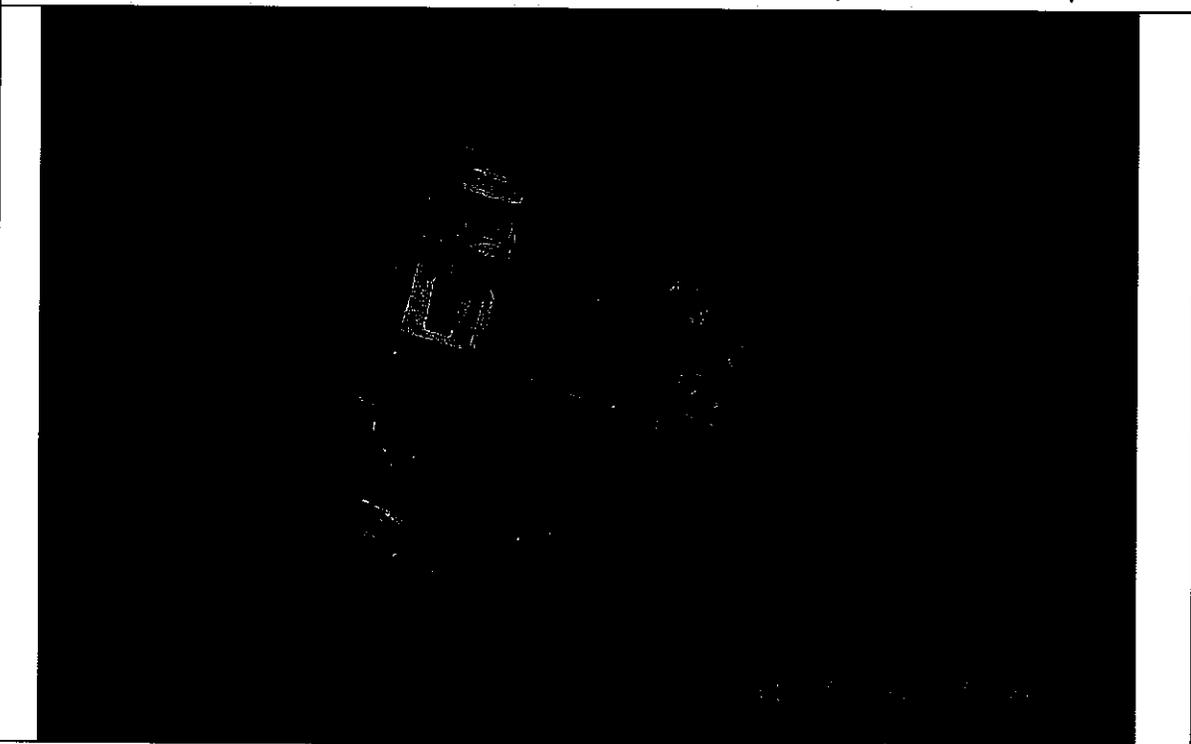


Photo No. 36: Note concentrated burn-through of meter rear near upper (left) blades

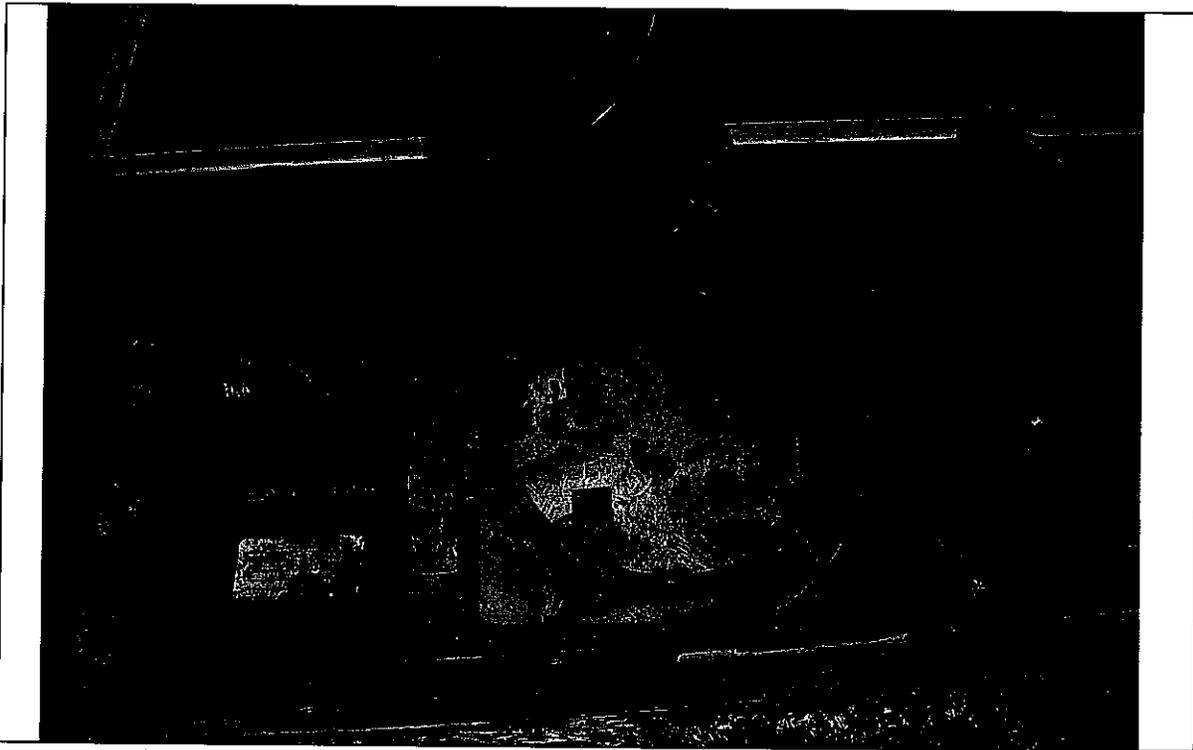


Photo No. 37: Lower meter socket with corresponding failed meter positioned for reference



Photo No. 38: Failed meter as seen from top while placed adjacent to corresponding socket

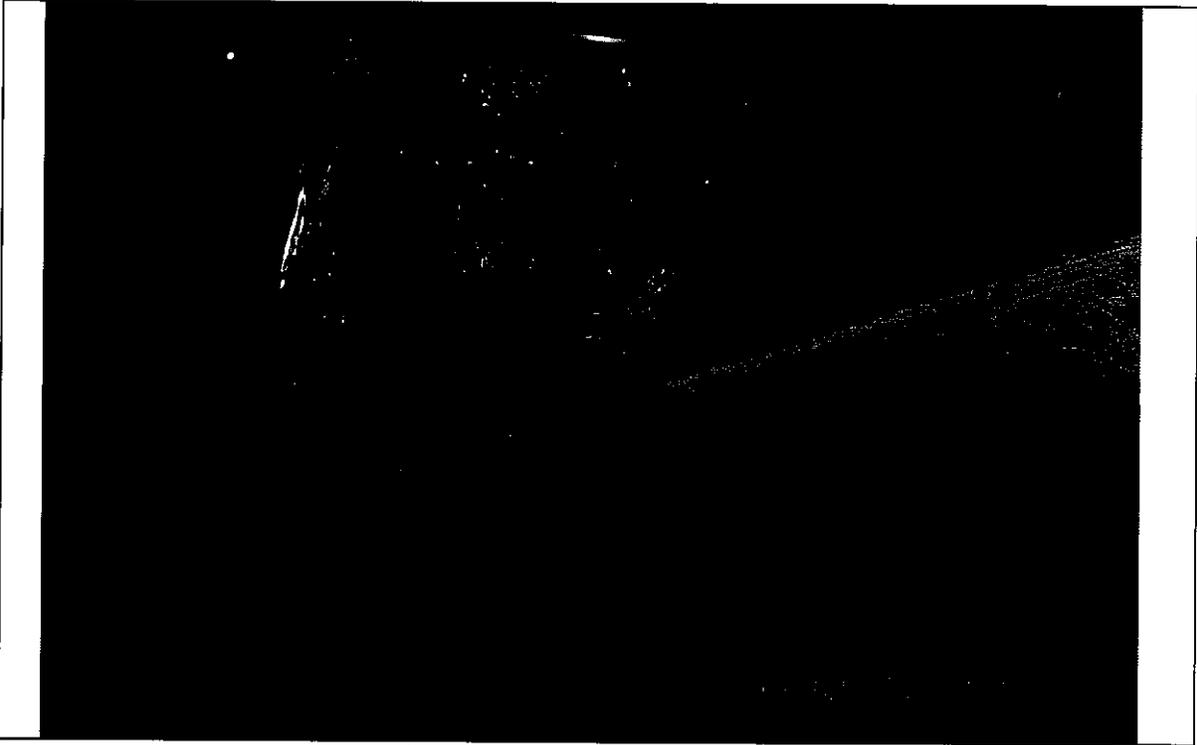


Photo No. 39: Identification tab on failed meter from lower position (reads "JAB 11")

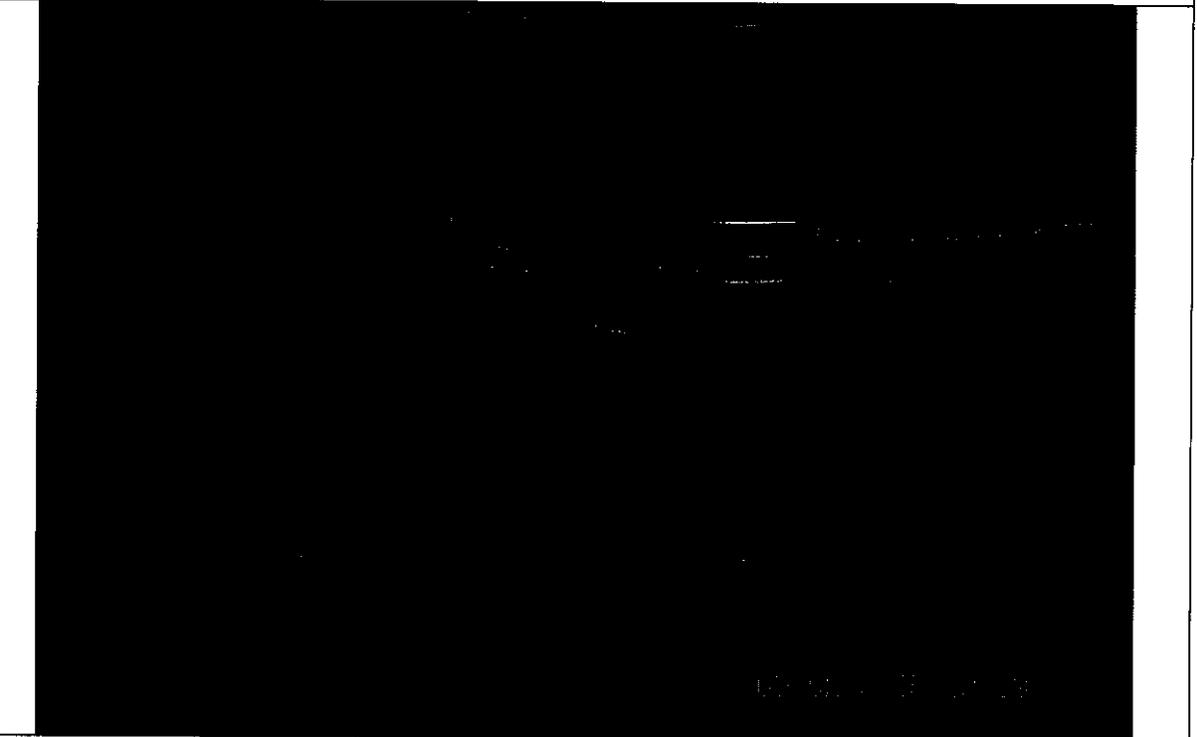


Photo No. 40: Similar identification tab on meter from center ("B") position (reads "JAB 12")

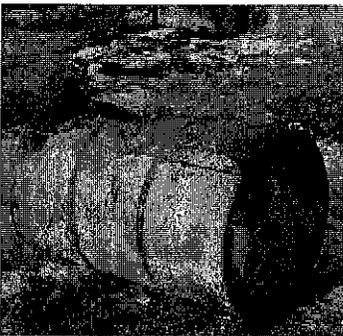
Forensic Electrical Engineering Report



Engineering



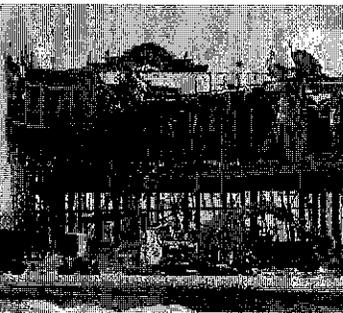
Fire Investigations



Environmental Consulting



Specialty & Consulting



Catastrophe Response

**100 Degrees Hot Pot, LLC
5600 Spring Mountain Road
Las Vegas, Nevada 89146
Claim Number: 77A5001263-00 (2015-1618-77A)**

Prepared For:

**Precision Risk Management, Inc.
P O Box 628
Cypress, California 90630
ATTN: Norman Lambe**

EFI Project No. 98380 07024

June 6, 2016

Prepared By:

**EFI Global, Inc.
4355 E. Lowell Street, Suite A
Ontario, California 91761
Dirk DeKreek, P.E.**

**Emergency 24 Hours: 888.888.2467
www.efiglobal.com**





June 6, 2016

Precision Risk Management

c/o: Norman Lambe

P O Box 628

Cypress, California 90630

RE: Forensic Electrical Engineering Report

100 Degrees Hot Pot, LLC

5600 Spring Mountain Road

Las Vegas, Nevada 89146

Date of Loss: July 2, 2015

Claim No.: 77A5001263-00 (2015-1618-77A)

EFI File No.: 98380 07024

As requested, EFI Global, Inc. (EFI) has completed a forensic electrical engineering investigation for the subject loss located at 5600 Spring Mountain Road in Las Vegas, Nevada. Our findings, analysis and conclusions are included herein.

This report contains a discussion of the information gathered during the investigation and an analysis and conclusions with respect to the condition of the subject site at the time of EFI's inspection. The conclusions contained herein are based on information available to date.

This written report is the response to your request for an engineering investigation at the property and should be read in full.

ASSIGNMENT DETAILS and BACKGROUND

This is a follow-up report detailing new findings on the referenced loss that were revealed during the course of destructive joint inspection of the Sensus "Smart Meter" that was the subject of an earlier report by this author dated September 18, 2015. The joint inspection was conducted at the facilities of NV Energy, 6226 W. Sahara Boulevard, Las Vegas, NV on April 21, 2016.

OBSERVATIONS

The following observations were noted during the joint destructive inspection at NV Energy facilities on April 21, 2016:

1. NV Energy produced the three meters reportedly removed from the scene, along with several photographs of the meters and service panel taken before removing the meters.
2. The meters bear identification labels indicating they were manufactured by "SENSUS".
3. Tim Lomprey of Lomprey Investigations transported the original service panel to NV Energy so that all items could be inspected at one time.
4. Sensus and NV Energy had representation present during the course of the inspection.
5. The meter of interest was the one from the lower socket, serving the "HP" load.
6. The subject "HP" meter was the most damaged.
7. The partially-molten plastic outer meter housing was removed from the subject "HP" meter to reveal the condition of the inner components.
8. The lower portion of the subject meter appeared less damaged than the upper portion.
9. Incoming power enters the meter from the upper rear via two copper bus blades (one for each pole of the 220-Volt service), passes through the inner workings of the meter and then exits through two similar copper bus blades at the lower rear.
10. The subject meter was equipped with switching contacts located in each pole located in the upper portion.
11. The contacts on the left pole (as viewed from front of meter) showed evidence of severe arcing. The contacts on the right pole appeared normal and showed no signs of unusual electrical activity.
12. The upper left copper bus blade showed discoloration from heat that appears to originate from inside the meter.
13. The upper copper bus blades were attached to the female socket clips from the panel.
14. The lower copper bus blades were clean and the mating clips were still present in the meter socket on the electrical panel.
15. The contact points between the upper meter blades and the mating socket clips were inspected carefully after separation and showed no evidence of poor contact or localized overheating.

ANALYSIS

The severely pitted condition of the switch contacts on the left pole inside the subject meter indicates that this meter was undergoing severe electrical malfunction prior to the fire occurring

in the panel. The complete absence of similar damage to the adjacent contacts on the right pole precludes any argument that the pitting was caused by the fire. Furthermore, a close-up photo reveals that the pitting is of splattered pattern as opposed to simple melting which might occur as a result of heat. In other words, the pitting occurred while the meter was under power and delivering power to the building. A fire originating in the panel would have removed power long before the heat reached the contacts. The only plausible explanation for the condition of the contacts is that the meter was malfunctioning prior to the fire.

All observed damage to the electrical panel and the meter itself is consistent with a fire triggered by extreme heat at the defective switch contacts inside the meter. The heat transferred to the metal clips, which were held in position by a resin-based insulator. The extreme heat ignited the insulator. The ensuing fire burned upward inside the panel, explaining the damage to the circuit breaker located directly above it. Open flame conducts electricity, so the flame drew an arc between the two energized power rails in the panel, explaining the unusual arc patterns in the center circuit on the panel, which was not part of the "HP" meter circuit.

One final observation must be noted here. All of the above activity occurred in a section of the electrical panel that is not accessible to anyone except employees of NV Energy. The meters were secured in place by locking collars, as noted in previous reports, precluding anyone else from accessing the area of the panel where this fire originated. The previous "not smart" meters cannot and do not cause these types of fires because they are not equipped with the switching contacts that allow the utility companies to turn power "on" and "off" to their customers at will without the nuisance of having to actually go to the site. The switching contacts are not required to make a meter "smart"...the smart designation comes from the ability of the meters to track power usage continuously and transmit the data back to the utility company. The switching contacts are a feature provided purely and solely for the convenience of the utility companies. This convenience comes at the price of exposing innocent and unsuspecting customers to fire hazards originating in a section of their electrical panel to which they have no access.

CONCLUSION

This fire was very obviously caused by overheating of the switching contact on the left side power bus inside the Sensus meter serving the "HP" circuits of the building. This fire occurred solely and directly as a result of the local utility company, NV Energy installing a defective meter into an existing and serviceable electrical panel. The fire originated in a locked and concealed area that is accessible ONLY to employees of NV Energy.

The owners and occupants of the subject building did nothing wrong and were powerless to prevent this fire. The employee(s) of NV Energy who installed the meter were the last persons having the opportunity to inspect the subject meter and associated panel. The responsibility to identify and prevent electrical fires of this nature rests with the utility provider and by inference, the manufacturer of the defective meter.

QUALIFICATIONS

The information presented in this report addressed the limited objectives related to the evaluation of the Sensus "Smart Meter" evidence for 5600 Spring Mountain Road in Las Vegas, Nevada. This report only describes the conditions present at the time of our evaluation. It is not intended to fully delineate or document every defect or deficiency of the subject evidence. If any additional information is encountered which relates to this evaluation, EFI reserves the right to alter the opinions contained in this report. In some cases, additional studies may be warranted to fully evaluate concerns noted.

The findings noted herein do not constitute a scope of work for repair or offer of repair. Our services have been performed using that degree of skill and care ordinarily exercised under similar conditions by reputable members of EFI's profession practicing in the same or similar locality at the time of performance.

Any verbal statements made before, during or after the course of the investigation were made as a courtesy only and are not considered a part of this report.

CLOSING

The instructions have been completed and the file will be closed. It will be maintained at EFI Global and can easily be retrieved. You may contact me through the Ontario Service Center at 800 693 9922.

Respectfully submitted,

EFI Global, Inc.



Dirk A. DeKreek, P.E.

Electrical Engineer

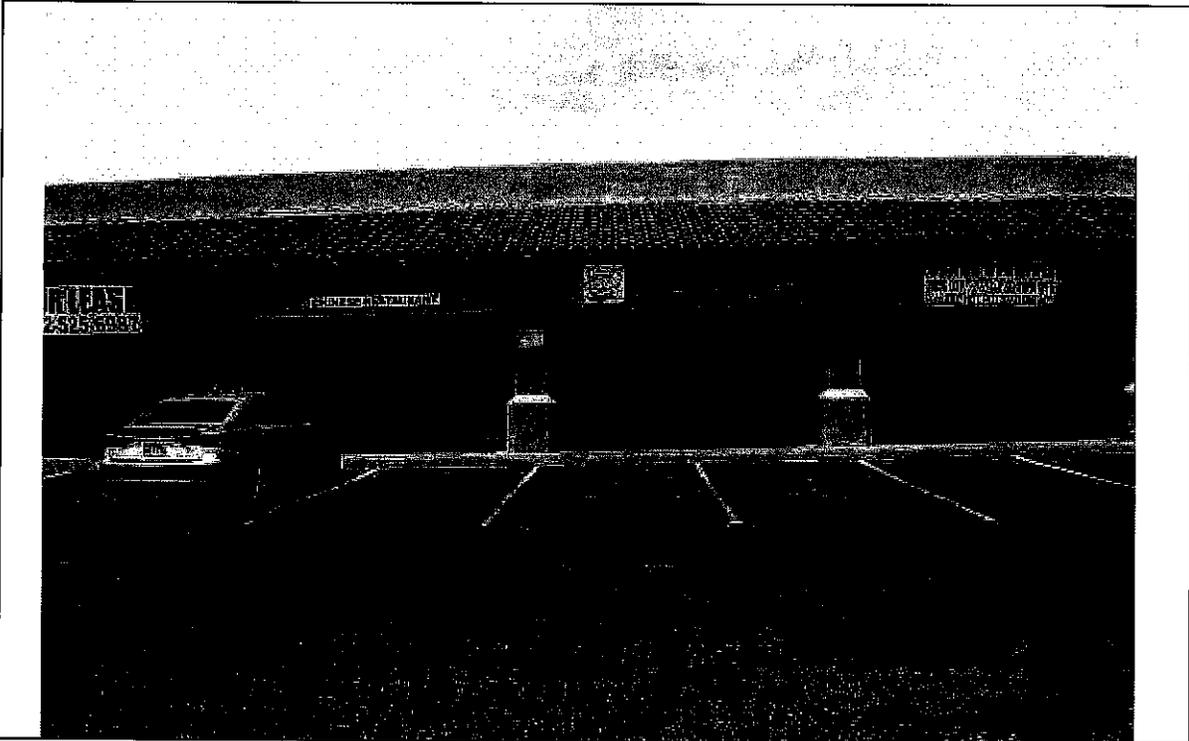


Photo No. 1: Loss Location at 5600 Spring Mountain Road, Las Vegas, NV 89146



Photo No. 2: Replacement power meters (note mfg. of replacement meter is Landys + Gyr)

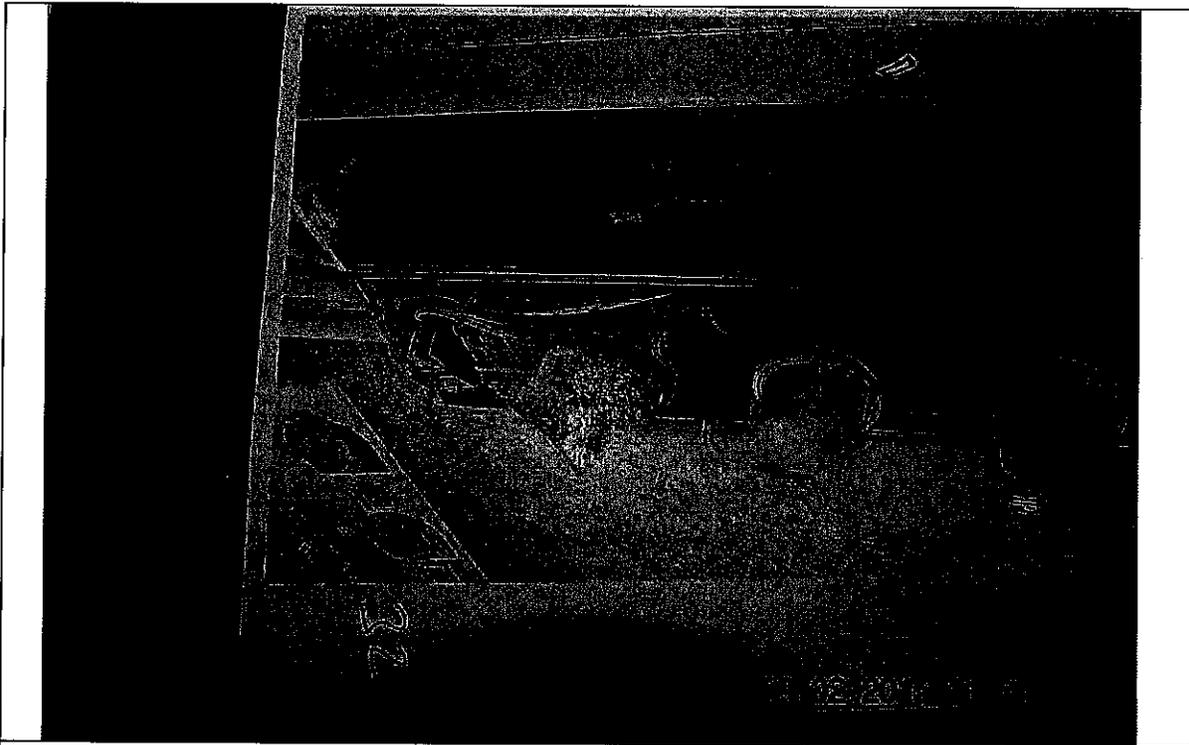


Photo No. 3: Photo provided by NV Energy of panel and meters as found shortly after loss date

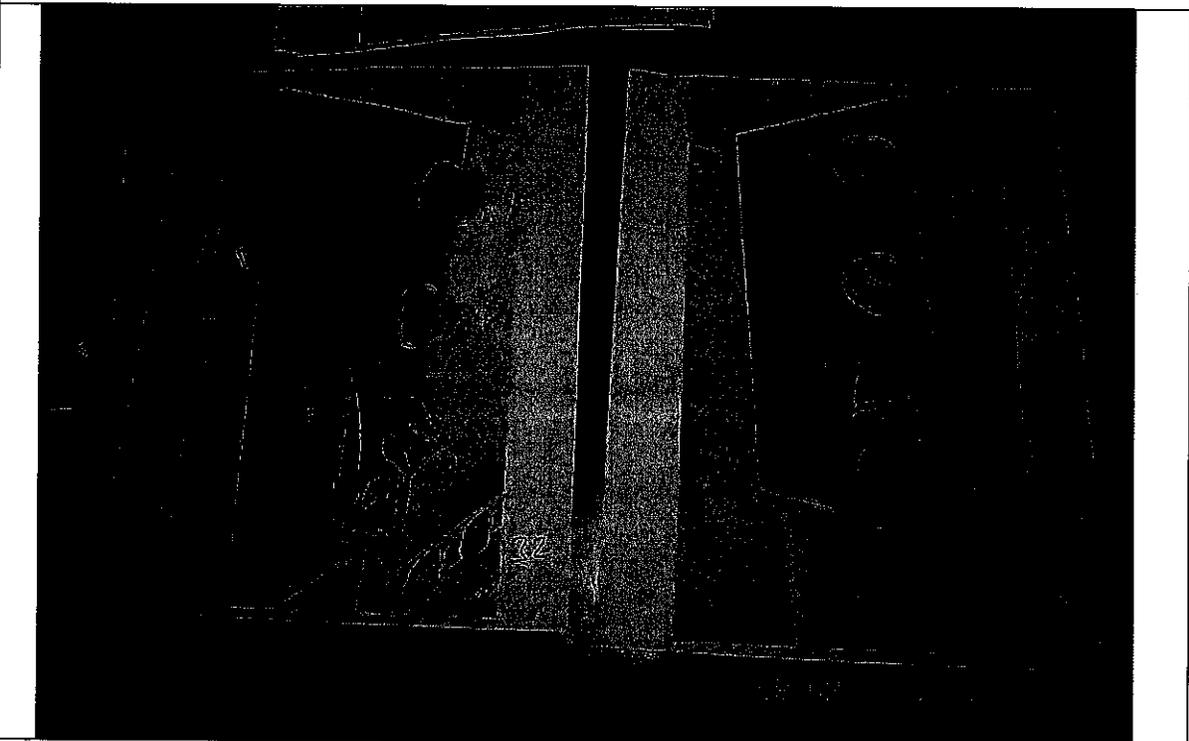


Photo No. 4: NV Energy photos show circuit breaker from center circuit lying loose at bottom



Photo No. 5: Meters arranged beside respective sockets during joint destructive inspection



Photo No. 6: Back of damaged meter showing two incoming poles with clips from panel

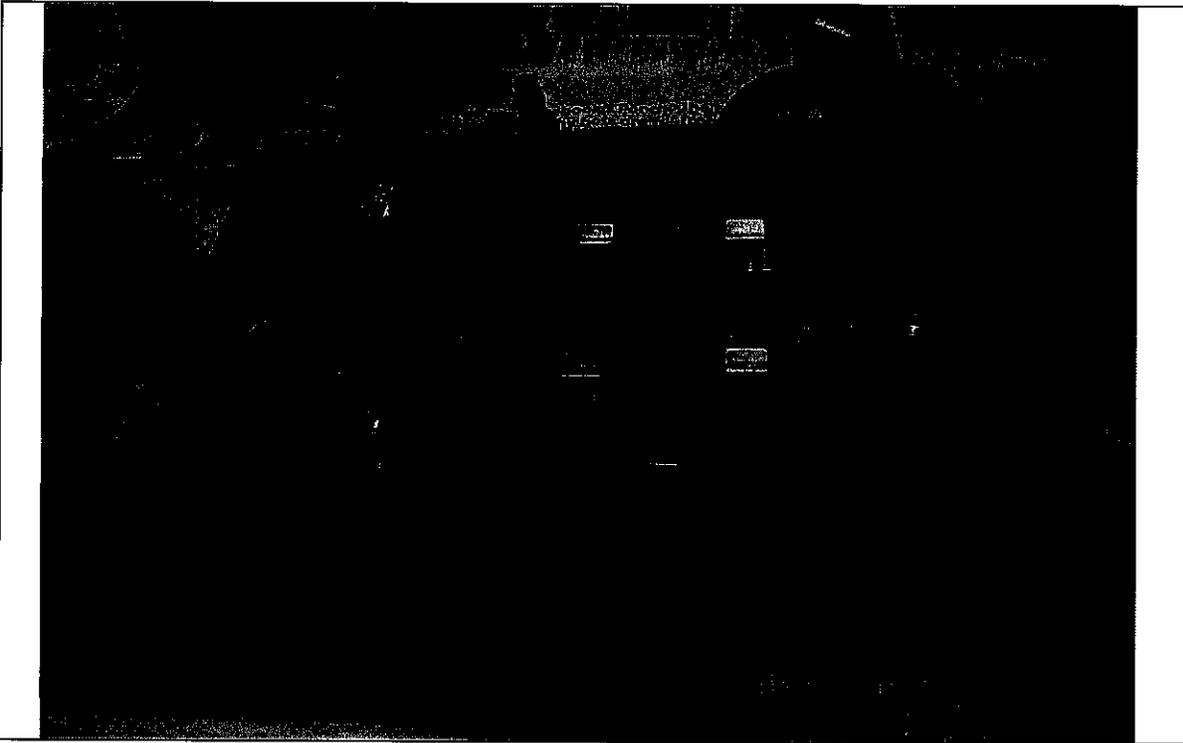


Photo No. 7: Four clips serving center meter socket visible in panel



Photo No. 8: Lower socket has only the outgoing clips present, incoming clips still on meter

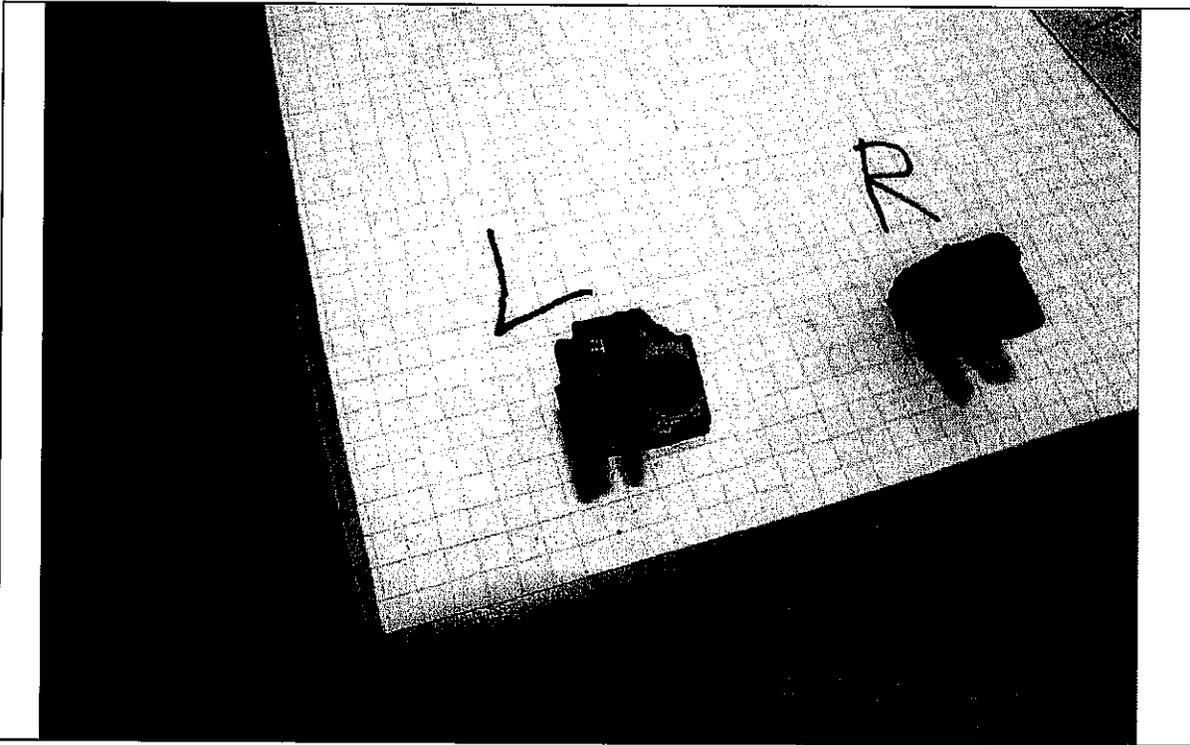


Photo No. 9: Close-up of clips after removal from damaged meter upper blades

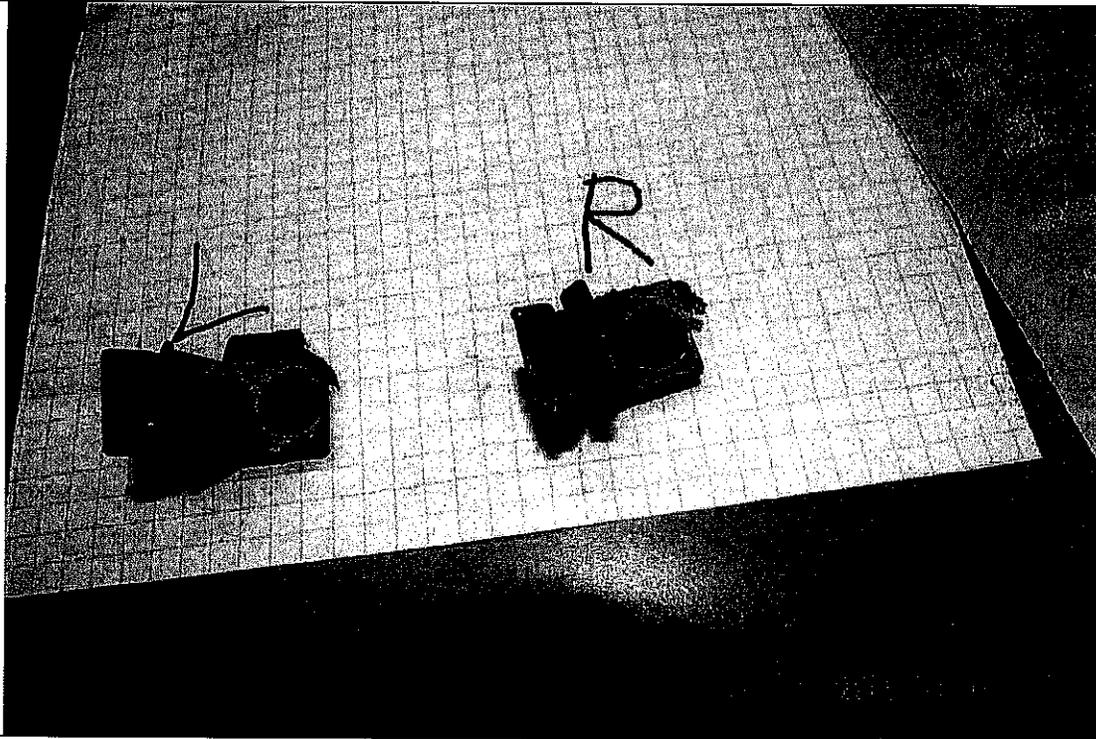


Photo No. 10: Clips were clearly well engaged with meter



Photo No. 11: Heat discoloration on copper incoming left upper bus at rear of damaged meter

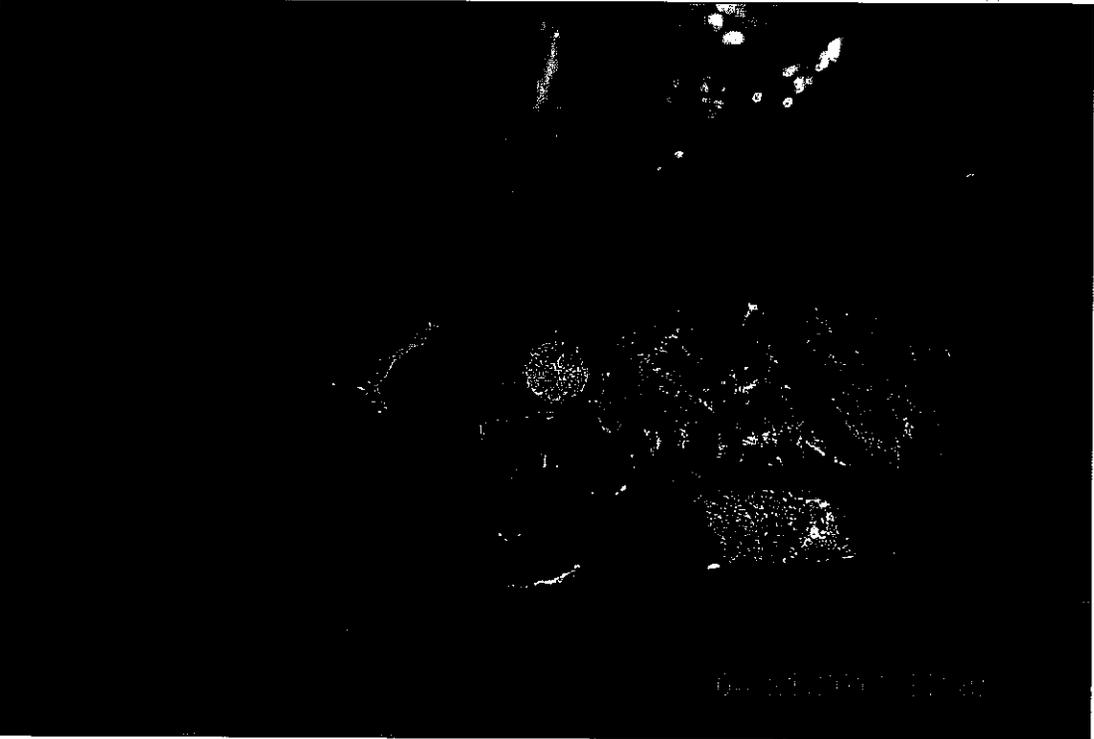


Photo No. 12: Pitted switch contact observed on upper left pole after meter disassembly

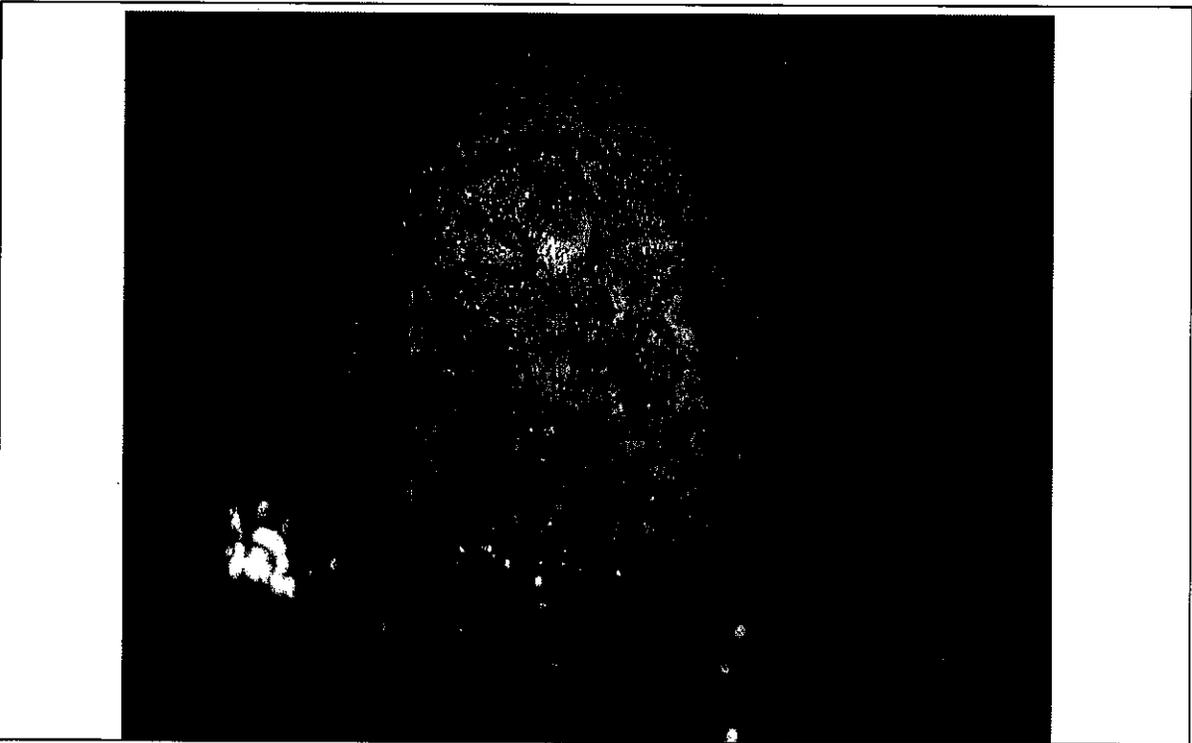


Photo No. 13: Closer view of pitted switch contact indicates severe electrical arcing occurred



Photo No. 14: Similar contact on right pole shows no sign of arcing



Photo No. 15: Close-up of contact on right pole

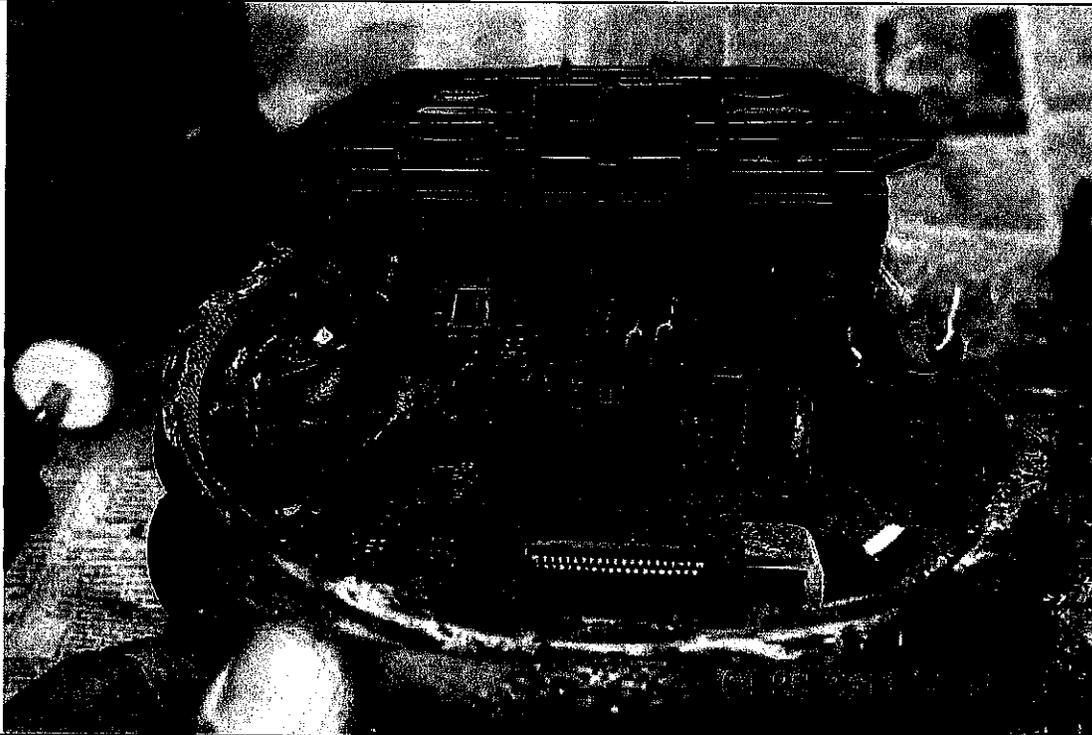


Photo No. 16: View of damaged meter with cover removed, looking up at bottom

JUL - UOIS - TTA

From: Dan Mara - CIO (dmara@dmaclaims.com)
To: rblack@davidmorse.com
Subject: FW: Incident Report
Attachments: image001.jpg

Date: Thu, 6 Mar 2014 09:32:47 -0800

recovered from spam filter..

From: Kinslow, Judy [mailto:JKinslow@sandiego.gov]
Sent: Wednesday, March 05, 2014 3:57 PM
To: dblack@davidmorse.com
Subject: Incident Report

[Print](#) [Close](#)

**SDMSE CADView - View Incident
Information
Incident Number - FS14023257**

**[Detail
Report](#)**

Incident Information

Priority	Level 1 Fire
Problem [MPDS Code]	Structure Fire - Comm / Apt []
Location Name	FRIARS VILLAGE
Address	10450 Friars Rd
Apartment	
City & Zip	SAN DIEGO, 92120
Engine District	45
Call Take Complete	02/26/2014 18:08:25
Call Sent to Queue	02/26/2014 18:06:56
Call Closed	02/26/2014 19:52:02
Call Disposition	1-CALL COMPLETE
Caller Information	, 619-453-7000

E45 (Cesar_Paniagua | Teofilo_Chavarin_PM |
Nicholas_Plancich | William_J_Middleton)

Dispatch	02/26/2014 18:07:16
Responding	02/26/2014 18:07:21
On Scene	02/26/2014 18:11:48
Call Complete	02/26/2014 19:42:08
Response Time	00:04:32
Unit Disposition	1-CALL COMPLETE

E31 (Thomas_Ruckle | Joseph_Amador |
Robert_Marshall | Roy_Staten_PM)

Dispatch	02/26/2014 18:07:16
Responding	02/26/2014 18:08:21
On Scene	02/26/2014 18:14:43
Call Complete	02/26/2014 19:21:07

Response Time 00:07:27
Unit Disposition 1-CALL COMPLETE

E18 (Kristopher_Gardner_PM | Roy_Burgess |
Daniel_Parras | Mark_Morrison)

Dispatch 02/26/2014 18:07:16
Responding 02/26/2014 18:09:32
On Scene 02/26/2014 18:14:19
Call Complete 02/26/2014 19:52:02
Response Time 00:07:03
Unit Disposition 1-CALL COMPLETE

E17 (William_E_Moore_PM | Andrew_Damm |
Marc_Caron_PM | Brandt_Truver)

Dispatch 02/26/2014 18:07:16
Responding 02/26/2014 18:08:33
On Scene 02/26/2014 18:14:05
Call Complete 02/26/2014 19:05:48
Response Time 00:06:49
Unit Disposition 1-CALL COMPLETE

T14 (Christopher_Finch | Ronald_Edrozo_II |
Philip_Londo_PM | Neil_Whelan_PM)

Dispatch 02/26/2014 18:07:16
Responding 02/26/2014 18:09:09
On Scene 02/26/2014 18:17:03
Call Complete 02/26/2014 19:19:16
Response Time 00:09:47
Unit Disposition 1-CALL COMPLETE

T10 (Jason_Brackpool_PM | John_Brubaker |
Shean_Hager | Steven_Benitez)

Dispatch 02/26/2014 18:07:16
Responding 02/26/2014 18:08:44
On Scene 02/26/2014 18:15:39
Call Complete 02/26/2014 19:42:10
Response Time 00:08:23
Unit Disposition 1-CALL COMPLETE

B2 (Benjamin_Castro_PM)

Dispatch 02/26/2014 18:07:16
Responding 02/26/2014 18:09:03
On Scene 02/26/2014 18:18:58
Call Complete 02/26/2014 19:44:16
Response Time 00:11:42
Unit Disposition 1-CALL COMPLETE

B6 (Steve_Salaz)

Dispatch 02/26/2014 18:07:16
Responding 02/26/2014 18:09:04
Call Complete 02/26/2014 18:13:55
Unit Disposition 1-CALL COMPLETE

PDS (PDS PAGER 2 | PDS PAGER 1 | PDS)

Dispatch 02/26/2014 18:07:16
Call Complete 02/26/2014 18:17:12

Unit Disposition 1-CALL COMPLETE
 SCNOT (SCNOT)
 Dispatch 02/26/2014 18:07:16
 Call Complete 02/26/2014 18:17:09
 Unit Disposition 1-CALL COMPLETE
 M18 (Kevin_Schwartzel_PM | Benjamin_Harris)
 Dispatch 02/26/2014 18:07:16
 Responding 02/26/2014 18:07:45
 On Scene 02/26/2014 18:18:48
 Call Complete 02/26/2014 19:38:06
 Response Time 00:11:32
 Unit Disposition 1-CALL COMPLETE

E5 (Ryan_Ferrara_PM | JJ_Harris_PM | Jason_Paine_PM | Philip_Christy)
 Dispatch 02/26/2014 18:09:46
 Responding 02/26/2014 18:09:51
 On Scene 02/26/2014 18:11:24
 Call Complete 02/26/2014 19:42:10
 Response Time 00:01:38
 Unit Disposition 1-CALL COMPLETE

B4 (Alfredo_Duron)
 Dispatch 02/26/2014 18:13:26
 Responding 02/26/2014 18:13:34
 On Scene 02/26/2014 18:19:23
 Call Complete 02/26/2014 19:16:57
 Response Time 00:05:57
 Unit Disposition 1-CALL COMPLETE

Sdge ()
 Dispatch 02/26/2014 18:21:24
 Responding 02/26/2014 18:36:08
 On Scene 02/26/2014 18:36:11
 Call Complete 02/26/2014 19:40:38
 Response Time 00:14:47
 Unit Disposition 1-CALL COMPLETE

Comments
 02/26/2014 18:06:38 POWER HAS GONE OUT CCH
 02/26/2014 18:06:32 NO FIRE SEEN CCH
 02/26/2014 18:06:20 SMOKE COMING FROM END UNIT OF CCH MALL
 02/26/2014 18:06:09 possible electrical fire CCH
 02/26/2014 18:04:57 [Geographic Area: 10450 FRIARS RD] [Low] [FD] TRAUMA Automatic by System
 CATCHMENT AREA - SHARP MEMORIAL
 02/26/2014 18:06:58 This incident FS14023257 has been sent to RCIP via the CAD2CAD Interface. RCIP_C2C

02/26/2014 18:06:58	Acknowledgement Received from RCIP 37F-14-0046716	RCIP_C2C
02/26/2014 18:08:23	SDGE RSP	CCH
02/26/2014 18:12:13	E45 ats ..1 sty strip mall....some have evacuated...investigating...assuming FRIARS IC	SCD
02/26/2014 18:12:33	light smoke showing from back of restaurant	SCD
02/26/2014 18:13:23	10 mins into incident	SCD
02/26/2014 18:21:14	IC - units ats 30 min., have SDGE expedite, 2 elect boxes on fire	SCD
02/26/2014 18:21:42	/SDG expedite 2 elect boxes on fire	SCD
02/26/2014 18:22:06	IC advised 20 minutes into Fire Incident	SCD
02/26/2014 18:22:23	Comment from CASDGE: ETM ENROUTE	RCIP_C2C
02/26/2014 18:22:43	/SDG any eta?	SCD
02/26/2014 18:25:06	IC - req PD for traffic cntl	SCD
02/26/2014 18:26:43	IC -needs Riverdale & Zion and Riverdale and Mission Gorge shut down - PD notified	SCD
02/26/2014 18:34:47	ic adv 30 mins into incident ...IC update on cond 2 high voltage elec boxes smoldering at the elec shut off for the strip mall... units standing by until SDGE arrives... crews in the process of evac affected units venting as nessesary...req eta for pd	ALB ✓
02/26/2014 18:36:19	IC - PD and SDGE ats	CAN
02/26/2014 18:40:20	Comment from CASDGE: ETM ONSITE 1838	RCIP_C2C
02/26/2014 18:40:57	IC advised 40 minutes into Fire Incident	CAN
02/26/2014 18:51:01	IC - update, SDGE adv power to circuit box shut down at main breaker, no eta, isolated to elect only, in process of notifying the business owners that they will be loosing power, keeping crews ats	CAN
02/26/2014 18:51:31	IC advised 50 minutes into Fire Incident	CAN
02/26/2014 18:51:45	IC - stop the timer	CAN
02/26/2014 19:36:10	IC - update, SDGE shutting down the power to the entire strip mall, 15 businesses affected, double checking to make sure the power is completely off, units ons approx. 10 mor min.	CAN

02/26/2014 19:40:31 IC - IC term, all units going avail shortly, E45 going avail after fire log CAN
02/26/2014 19:42:09 2 SDGE meters on fire. 15 ✓ businesses evacuated and w/o power. E45

***Note - All times listed are unofficial and unaudited.**

A&E

INSURANCE FOR ARCHITECTS & ENGINEERS

ProSurance™ A&E Policy Document

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A&E



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W: www.cfunderwriting.com

PREAMBLE

This Policy is a contract of insurance between you and us. Your Policy contains all the details of the cover that we provide, subject always to our receipt of the Premium. This Policy consists of and must be read together with the Declarations and any Endorsements. This Policy is not complete unless it is signed and a Declarations page is attached.

The Sections of this policy are identified by **BLUE LINES** across the page with **WHITE UPPER CASE PRINT**. Clause headings in blue **UPPER CASE PRINT** are for information only and do not form part of the cover given by this Policy. Other terms in **bold lower case print** are defined terms and have a special meaning as set forth in the **DEFINITIONS** section and elsewhere. Words stated in the singular shall include the plural and vice versa. However, this protocol does not apply to the **STATUTORY CONDITIONS** and subsequent Sections.

IMPORTANT: INSURING CLAUSES 1 and 2 provide cover on a claims made basis. Under these **INSURING CLAUSES** a claim must be first made against the company named as the Insured in the Declarations or any subsidiary during the period of the policy and notified to us during the period of the policy to be covered.

In consideration of the Premium and in reliance upon the information that you have provided to us prior to commencement of this insurance and which is deemed to form the basis of this insurance:

INSURING CLAUSES

INSURING CLAUSE 1: ERRORS & OMISSIONS

SECTION A: PROFESSIONAL LIABILITY

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim first made against the company named as the Insured in the Declarations or any subsidiary and notified to us during the period of the policy arising out of any:

- a) negligent act, error or omission, negligent misstatement or negligent misrepresentation;
- b) breach of any contractual term implied by law concerning necessary quality, safety or fitness, or your duty to use reasonable care and skill;
- c) breach of warranty of authority, breach of duty, breach of trust, breach of confidence, misuse of information or breach of privacy;
- d) libel, slander or defamation;
- e) dishonesty of your directors, partners, officers or employees provided that we maintain all rights of subrogation to recover such legal costs and expenses from any director, partner, officer or employee if they are found guilty of such a dishonest act; or
- f) other act, error or omission giving rise to civil liability to your clients but not any breach of contract save as specified above;

committed by you or on your behalf in the course of your business activities. We will also pay costs and expenses on your behalf.

SECTION B: BREACH OF CONTRACT

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim by a client first made against the company named as the Insured in the Declarations or any subsidiary and notified to us during the period of the policy arising out of any breach of client contract. We will also pay costs and expenses on your behalf.

SECTION C: INTELLECTUAL PROPERTY RIGHTS INFRINGEMENT

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim first made against the company named as the Insured in the Declarations or any subsidiary and notified to us during the period of the policy arising out of your infringement of any intellectual property right in the course of your business activities. We will also pay costs and expenses on your behalf.

SECTION D: POLLUTION LIABILITY

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim first made against the company named as the Insured in the Declarations or any subsidiary and notified to us during the period of the policy arising out of:

- a) pollution or contamination of the atmosphere, or of any water; land, buildings or other property;

- b) any enforcement action in connection with the containment, clean-up, removal or treatment of such pollution or contamination. We will also pay costs and expenses on your behalf.

SECTION E: LOSS OF DOCUMENTS

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim first made against the company named as the Insured in the Declarations or any subsidiary and notified to us during the period of the policy arising out of destruction of, damage to, loss or mislaying of your documents or documents in your care, custody or control. We will also pay costs and expenses on your behalf.

SECTION F: COMPUTER VIRUS AND HACKING ATTACK

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim first made against the company named as the Insured in the Declarations or any subsidiary and notified to us during the period of the policy as a direct result of:

- a) any third parties' financial losses arising directly from a hacking attack or virus that has emanated from or passed through your computer systems, or
- b) any third parties' financial losses arising directly from their inability to access your computer systems in the way in which you have authorised them to as a direct result of your computer systems' failure or impairment due to a hacking attack or virus, or
- c) any third parties' financial losses arising directly from the loss or theft of your data or data for which you are responsible or held to be responsible arising directly from a hacking attack or virus.

We will also pay costs and expenses on your behalf.

SECTION G: LOSS MITIGATION

We agree to pay any reasonable costs necessarily incurred by you with our prior written consent in respect of measures taken by you for the sole purpose of avoiding or mitigating a claim or potential claim for which you would be entitled to indemnity under **INSURING CLAUSE 1** of this Policy had such measures not been taken.

SECTION H: PAYMENT OF WITHHELD FEES

We agree to pay your withheld fees with our prior written consent in the event that your client brings or threatens to bring a claim against you that would be covered under **INSURING CLAUSE 1**, **SECTIONS A** or **B** for an amount greater than your withheld fees if you attempt to recover the withheld fees from them. Prior to payment of your withheld fees you must obtain written confirmation from your client that they will not bring a claim against you if you agree not to pursue them for your withheld fees and provide it to us.

ALL SECTIONS

We will not make any payment on your behalf under any SECTION of

this **INSURING CLAUSE** in respect of any claim arising directly or indirectly out of injury or damage:

- a) from products or workmanship; or
- b) that did not occur directly as a result of your business activities.

INSURING CLAUSE 2: EMPLOYEE BENEFITS LIABILITY

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim first made against the company named as the Insured in the Declarations or any subsidiary and notified to us during the period of the policy arising out of any negligent act, error or omission committed by you or on your behalf in the administration of your employee benefit program. We will also pay costs and expenses on your behalf.

Furthermore, we agree to pay on your behalf any costs and expenses necessarily incurred with our prior written consent in respect of measures taken by you with the object of avoiding or mitigating a claim for which you would be entitled to indemnity hereunder had such measures not been taken.

INSURING CLAUSE 3: THIRD PARTY LIABILITY

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim arising out of accidental injury or damage occurring during the period of the policy in the course of your business activities. We will also pay costs and expenses on your behalf.

However, we will not make any payment on your behalf under this **INSURING CLAUSE** in respect of any claim:

- a) which is covered under **INSURING CLAUSE 1**, or would be covered under **INSURING CLAUSE 1** but for the exhaustion of the limit of liability or aggregate limit of liability of **INSURING CLAUSE 1**;
- b) arising directly or indirectly out of any product.

INSURING CLAUSE 4: PRODUCTS LIABILITY

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim arising out of accidental injury or damage occurring during the period of the policy in the course of your business activities in connection with any product. We will also pay costs and expenses on your behalf.

However, we will not make any payment on your behalf under this **INSURING CLAUSE** in respect of any claim which is covered under **INSURING CLAUSE 1**, or would be covered under **INSURING CLAUSE 1** but for the exhaustion of the limit of liability or aggregate limit of liability of **INSURING CLAUSE 1**.

INSURING CLAUSE 5: TENANTS' LEGAL LIABILITY

We agree to pay on your behalf all sums which you become legally obliged to pay (including liability for claimants' costs and expenses) as a result of any claim arising out of accidental damage to premises leased to, on loan to or held in trust by you or otherwise in your care, custody or control occurring during the period of the policy in the course of your business activities. We will also pay costs and expenses on your behalf.

However, we will not make any payment on your behalf under this **INSURING CLAUSE** in respect of any claim:

- a) which is covered under **INSURING CLAUSE 1**, or would be covered under **INSURING CLAUSE 1** but for the exhaustion of the limit of liability or aggregate limit of liability of **INSURING CLAUSE 1**;
- b) arising directly or indirectly out of any product.

INSURING CLAUSE 6: MEDICAL EXPENSES

We agree to pay medical expenses for injury caused by an accident occurring during the period of the policy: on premises you own or rent;

- a) on ways next to premises you own or rent; or
- b) because of your business activities; provided that:
- c) the injured person, at the time of the accident, is not entitled to benefits under any workers compensation or disability benefits law or similar law; and
- d) the medical expenses are incurred and notified to us within one year of the date of the accident; and
- e) the injured person submits to examination, at our expense, by physicians of our choice as often as we reasonably require.

We will make these payments regardless of fault.

INSURING CLAUSE 7: COMMERCIAL PROPERTY

We agree to reimburse you up to the amount insured shown in the Declarations for:

- a) the cost of repairing damage occurring during the period of the policy to your office buildings, including landlord's fixtures and fittings, walls, gates and fences, yards, car parks and pavements, piping, ducting, cables, wires and associated control gear and accessories on the premises and extending to the public mains but only to the extent of your responsibility;
- b) damage occurring during the period of the policy to contents of every description contained in your office;
- c) damage occurring during the period of the policy to contents of every description kept at the home of your directors, officers, partners or employees in the course of your business activities;
- d) damage occurring during the period of the policy to contents of every description temporarily elsewhere, including while in transit; the necessary and reasonable costs you incur following damage occurring during the period of the policy to glass which belongs to you or for which you are legally responsible for:
 - i) temporary boarding up;
 - ii) repair of window frames or removal or replacement of fixtures and fittings in the course of replacing the glass;
 - iii) replacement lettering or other ornamental work and alarm foil on glass;
- f) damage occurring during the period of the policy to money held in the course of your business activities:
 - g) in the office during business hours, in transit or in a Bank Night Safe;
 - h) in the office outside business hours in a locked safe;
 - i) at the home of your directors, officers, partners or employees;
 - j) damage occurring during the period of the policy to the personal belongings of your employees or visitors to the office provided they are not covered under any other insurance;
- k) the reasonable cost of compiling the documents, books of account, drawings, card index systems or other records including film, tape, disc, drum, cell or other magnetic recording or storage media for electronic data processing that you need to continue your business activities if these items have been lost or distorted as a direct result of damage covered under this **INSURING CLAUSE**;
- l) the costs you incur to replace locks and keys necessary to maintain the security of your office or safes following theft of keys involving force and violence occurring during the period of the policy;
- m) the amount of any rent for the office which you are legally obliged to pay for any period during which the office or any part of it is unusable as a result of damage covered under this **INSURING CLAUSE**.

We also agree to pay:

- a) costs and expenses on your behalf;
- b) compensation as shown in the Declarations if any of your directors, officers, partners or employees who are aged between 16 and 70 on the Inception Date shown in the Declarations suffers an injury in the course of your business activities in a robbery or attempted robbery and suffers:
 - i) death, permanent total disablement, loss of a limb or loss of sight as a direct result of the injury within one year of the date of its occurrence;
 - ii) temporary total disablement. The compensation for temporary total disablement will be the amount shown in the Declarations per week, for a maximum of 104 weeks.

However, we will not pay compensation under more than one heading in the Declarations for the same injury.

INSURING CLAUSE 8: BUSINESS INTERRUPTION

We agree to reimburse you up to the amount insured shown in the Declarations for your loss of income, extra expense, loss of research and development expenditure, project delay costs and accounts receivable resulting solely and directly from an interruption to your business activities caused by:

- a) insured damage to your office or contents of every description or to any other property used by you at your office;
- b) insured damage to property in the vicinity of your office which prevents or hinders your access to your office;
- c) insured damage at the premises of one of your suppliers, other than a supplier of water, gas, electricity or telephone services;

- d) failure in the supply of water, gas, electricity, or telephone services to your office for more than 24 consecutive hours caused by insured damage to any property;
- e) your inability to use your office due to restrictions imposed by a public authority following:
 - i) a murder or suicide;
 - ii) an occurrence of a notifiable human disease;
 - iii) injury traceable to food or drink consumed at your office;
 - iv) vermin or pests at your office.

HOW MUCH WE WILL PAY

The maximum amount payable by us for all claims, losses, damage, costs and expenses and medical expenses shall not exceed the amounts shown in the Declarations in respect of each INSURING CLAUSE unless limited below.

However, solely with respect to any claims under this Policy that shall and must be governed by Quebec law on the scope of our liability, we agree to pay costs and expenses in addition to the Limits of Liability stated in the Declarations.

Where more than one claim or loss arises from the same original cause or single source or event all such claims or losses shall be deemed to be one claim or loss and only one limit of liability shall be payable in respect of the aggregate of all such claims or losses.

Where cover is provided under multiple SECTIONS of INSURING CLAUSE 1 only one Limit of Liability shall be payable in respect of that claim.

In respect of INSURING CLAUSES 1 to 5 we may at any time pay to you in connection with any claim the amount of the aggregate limit of liability or limit of liability (after deduction of any amounts already paid). Upon such payment being made we shall relinquish the conduct and control of and be under no further liability in connection with such claim except for the payment of costs and expenses incurred prior to the date of such payment (unless the aggregate limit of liability or limit of liability is stated to be inclusive of costs and expenses).

In respect of INSURING CLAUSE 7 only:

- a) At our option, we will pay for any damaged property on the following basis:
 - i) for the office, the cost of rebuilding or replacing the damaged property;

- ii) for contents of every description, the cost of repair or replacement as new.
- b) If, at the time the damage occurs, the amount insured is less than 85% of the total value of the office or contents of every description insured, the amount we will pay will be reduced in the same proportion as the amount insured bears to the total value of the office or contents of every description insured.
- c) The amount insured for the office and contents of every description will be adjusted monthly in line with any increase in nationally published indices. We will not reduce the amount insured without your consent.

In respect of INSURING CLAUSE 8 the amount we will pay will be:

- a) the difference between your actual income during the indemnity period and the income it is estimated you would have earned during that period or, if this is your first trading year, the difference between your income during the indemnity period and during the period immediately prior to the loss, less any savings resulting from the reduced costs and expenses you pay out of your income during the indemnity period; and
- b) any additional costs and expenses;
- c) any project delay costs during the indemnity period, including the total value of any milestone payments that were due in the indemnity period but will no longer be received by you either during the indemnity period or at any point in the future due to permanent termination of the project;
- d) any research and development expenditure irrevocably lost during the indemnity period; and
- e) any accounts receivable, provided you keep a record of all amounts owed to you and keep a copy of the record away from your office.

YOUR DEDUCTIBLE

We shall only be liable for that part of each and every claim, loss or medical expenses (which for the purpose of this clause shall be deemed to include all costs and expenses incurred) which exceeds the amount of the Deductible stated in the Declarations. Where more than one claim, loss or medical expenses arises from the same original cause or single source or event all such claims, losses or medical expenses shall be deemed to be one claim, loss or medical expenses and only one

Deductible will apply.

If any expenditure is incurred by us which by virtue of this clause is your responsibility then you shall reimburse such amount to us on our request or where possible we will deduct such amount from any payment we make to you.

DEFINITIONS

1. "Accounts receivable" means:
 - a) all sums due to you from customers, provided you are unable to effect collection thereof as the direct result of insured damage to records of accounts receivable;
 - b) interest charges on any loan to offset impaired collections pending repayment of such sums made uncollectible by such insured damage;
 - c) collection expense in excess of normal collection cost and made necessary because of insured damage.
2. "Administration" means:
 - a) counseling employees, including their dependants and beneficiaries, with respect to your employee benefit program;
 - b) handling records in connection with your employee benefit program;
 - c) effecting enrolment or termination of any employee's participation in a plan included in your employee benefit program;
 - d) interpreting your employee benefit program.
3. "Aggregate limit of liability" means the maximum amount payable as stated in the Declarations by us in respect of all claims, or in respect of all accidents giving rise to medical expenses.
4. "Amount insured" means the maximum amount payable by us as shown in the Declarations in respect of each of INSURING CLAUSES 7 and 8. The amount applies to each incident of loss or damage occurring during the period of the policy provided always that after the first incident of loss or damage you comply with our recommendations to prevent any further incidents of loss or damage.
5. "Breach of client contract" means your unintentional breach of a written contract relating to the performance of your business activities for a client.
6. "Business activities" means:

- a) in respect of **INSURING CLAUSE 1**, the **business activities** as stated in the Declarations.
- b) in respect of all other **INSURING CLAUSES**, the **business activities** as stated in the Declarations and shall include, for the purpose of those **business activities**:
 - i) the ownership, repair and maintenance of your property;
 - ii) provision and management of canteen, social, sports and welfare organisations for the benefit of your directors, officers, partners or **employees** and medical, fire fighting, and security services;
 - iii) attendance at conferences and tradeshow as either an exhibitor or visitor.

7. **"Claim"**

means a demand received by you for **money** or services, including the service of suit or institution of arbitration proceedings. "Claim" shall also mean a threat or initiation of a suit seeking injunctive relief (meaning a temporary restraining order or a preliminary or permanent injunction).

8. **"Client"**

means any third party with whom you have a written or implied contract in place for the supply of your **business activities** in return for a fee.

9. **"Contents of every description"**

means the contents of your office used in connection with your **business activities** which are owned by you or for which you are legally responsible, including:

- a) computer and ancillary equipment (including monitors, keyboards, printers and software), television and video equipment, photographic, photocopying, surveying and telecommunications equipment;
- b) documents, briefs, manuscripts, plans, business books, computers systems records and programs;
- c) goods held in trust, stock and samples;
- d) wines, spirits and tobacco kept for entertainment purposes;
- e) works of art or precious metals;
- f) fixed glass in windows, doors and fanlights, glass showcases, glass shelves, mirrors and sanitary fixtures and fittings;
- g) heating oil for the office contained in fixed tanks in the open at the address shown in the Declarations;
- h) tenant's improvements, decorations, fixtures and fittings including, if attached to the building, external signs, aerials and satellite dishes;
- i) pipes, ducting, cables, wires and associated control equipment at the address shown in the Declarations and extending to the public mains.

"Contents of every description" does not include **money** or the personal belongings of your **employees** or visitors to the office.

10. **"Costs and expenses"**

means:

- a) in respect of **INSURING CLAUSES 1 (SECTIONS A to F)** only and 2,
 - i) your legal costs and expenses in the defence or settlement of any claim made against you, and
 - ii) your legal costs and expenses in the defence of any criminal claim made against you, provided that we maintain all rights of subrogation to recover such legal costs and expenses from any director, officer, partner or employee if they are found guilty of such a criminal act, and
 - iii) the cost of bonds to release attachments but without any obligation to furnish these bonds, and
 - iv) interest on that part of any judgment we pay that accrues after entry of the judgment and before we have paid, offered to pay, or deposited in court the part of the judgment that is within the limit of liability.
- b) in respect of **INSURING CLAUSES 3 to 5**,
 - i) your legal costs and expenses in the defence or settlement of any claim made against you, and
 - ii) the cost of bonds to release attachments but without any obligation to furnish these bonds, and

- iii) interest on that part of any judgment we pay that accrues after entry of the judgment and before we have paid, offered to pay, or deposited in court the part of the judgment that is within the limit of liability.
- c) in respect of **INSURING CLAUSES 7 and 8**, the costs and expenses incurred by you or on your behalf in establishing that you have sustained a loss or damage and the quantum of such loss or damage or the costs and expenses incurred by you or on your behalf in mitigating any such loss or damage.
- d) in respect of **INSURING CLAUSE 7** only, the necessary and reasonable costs and expenses you incur to remove debris from the premises or the area immediately adjacent, following damage covered under this **INSURING CLAUSE**.

Subject to all costs and expenses being incurred with the Claims Managers' written consent (such consent not to be unreasonably withheld).

If costs and expenses are shown in the Declarations to be in addition to the aggregate limit of liability or limit of liability in respect of any of **INSURING CLAUSES 1 to 5**, and if a payment in excess of the amount of indemnity available hereunder has to be made to dispose of any claim or number of claims, our liability for such costs and expenses shall be such proportion thereof as the amount of indemnity available hereunder bears to the amount required to dispose of such claim or claims.

Costs and expenses are always included in the amount insured in respect of **INSURING CLAUSES 7 and 8**.

11. **"Damage/damaged"**

means direct physical damage to, or destruction of, or loss of possession of, or loss of use of, tangible property. In respect of **INSURING CLAUSES 1, 3 and 4** damage does not include damage to or destruction of, or loss of possession of, or loss of use of, or corruption of, data.

12. **"Documents"**

means deeds, wills, agreements, maps, plans, records, books, letters, certificates, forms, computer programmes or information stored, written or punched into card or tape or magnetic discs or tapes or any other data media and documents of any nature whatsoever, whether written, printed or reproduced by any other method (other than bearer bonds, coupons, bank notes, currency notes and negotiable instruments).

13. **"Employee"**

means any person employed by the company named as the Insured in the Declarations, or any subsidiary. Employee does not include any director, officer or partner of the company named as the Insured in the Declarations, or any subsidiary.

14. **"Employee benefit program"**

means group automobile insurance, group homeowners insurance, group life insurance, group dental insurance, group health insurance, profit sharing plans, pension plans, early retirement offerings, employee investment subscription plans, Workers' Compensation, Unemployment Insurance, Social Security, Disability Benefit Insurance, travel, savings or vacation plans or any similar benefit programs.

15. **"Extra expense"**

means the necessary and reasonable extra costs and expenses you incur in order to continue your business activities during the indemnity period.

16. **"Hacking attack"**

means any malicious or unauthorised electronic attack including but not limited to any fraudulent electronic signature, brute force attack, phishing, denial of service attack, that has been initiated by any third parties or by any employees and that is designed to damage, destroy, corrupt, overload, circumvent or impair the functionality of computer systems, software and ancillary equipment.

17. **"Income"**

means your total income from your business activities.

18. "Indemnity period"
means the period beginning at the date of the **damage**, or the date the restriction is imposed, and lasting for the period during which **your income** or expenditure is affected as a result of such **damage** or restriction, but for no longer than the number of months shown in the Declarations.
19. "Injury"
means:
a) in respect of **INSURING CLAUSE 1** death, bodily injury, mental injury, illness or disease;
b) in respect of all other **INSURING CLAUSES**:
i) death, bodily injury, mental injury, illness, disease, shock, mental anguish or humiliation; and
ii) false arrest, detention or imprisonment; and
iii) malicious prosecution; and
iv) wrongful entry into, or eviction of a person from, a room, dwelling or premises that the person occupies.
20. "Insured damage"
means **damage** to property provided that:
a) the **damage** is covered under **INSURING CLAUSE 7**; or
b) an insurer has paid the claim, or has agreed to pay the claim, under any other insurance covering such **damage**.
21. "Intellectual property right"
means any **intellectual property right** including but not limited to trademarks, trade secrets, broadcasting rights, domain names, metatags and copyrights but does not include patents.
22. "Limit of liability"
means the maximum amount payable by **us** as stated in the Declarations in respect of each **claim** or **loss**, or in respect of each accident giving rise to **medical expenses**.
23. "Loss of a limb"
means loss by physical separation of a hand at or above the wrist, of a foot at or above the ankle, and includes total and irrecoverable loss of use of a hand, arm or leg.
24. "Loss of sight"
means total and irrecoverable loss of sight.
25. "Loss"
means direct financial loss sustained by **you**.
26. "Money"
means cash, bank and currency notes, cheques, travellers' cheques, postal orders, money orders, crossed bankers' drafts, current postage stamps, savings stamps and certificates, trading stamps, gift tokens, customer redemption vouchers, company sales vouchers, credit card counterfoils, travellers tickets and contents of franking machines, all belonging to **you**.
27. "Medical expenses"
means reasonable expenses for:
a) first aid administered at the time of an accident;
b) necessary medical, surgical, x ray and dental services, including prosthetic devices;
c) necessary ambulance, hospital, professional nursing and funeral services.
28. "Office"
means the **office** space (including any outbuildings) **you** occupy at the address shown in the Declarations as more fully described in the application form.
29. "Period of the policy"
means the period between the Inception Date shown in the Declarations and the Expiry Date shown in the Declarations or until the Policy is cancelled in accordance with **GENERAL CONDITION 10** of this Policy.
30. "Permanent total disablement"
means disablement which entirely prevents the injured person from attending to any business or occupation for which he is reasonably suited by training, education or experience for 24 calendar months and at the expiry of that period being beyond hope of improvement.
31. "Project delay costs"
means any additional **costs and expenses** incurred by **you** as a direct result of a delay to a project, including the interest charges incurred from any reasonable loan required as a result of a delayed milestone payment.
32. "Product"
means any tangible property (including containers, packaging, labelling or instructions, but explicitly excluding any software, data, or source code) after it has left **your** custody or control which has been designed, specified, formulated, manufactured, constructed, installed, sold, supplied, distributed, treated, serviced, altered, processed, cleaned, renovated or repaired by **you** or on **your** behalf in the course of **your business activities**.
33. "Research and development expenditure"
means **your** expenditure on research and development less the cost of reusable materials consumed for the purposes of the research and development.
34. "Subsidiary"
means any company which the company named as the Insured in the Declarations controls through:
a) holding 50% or more of the voting rights, or
b) having the right to appoint or remove 50% or more of its board of directors; or
c) controlling alone, pursuant to a written agreement with other shareholders or members, 50% or more of the voting rights therein.
35. "Temporary total disablement"
means disablement which entirely prevents the injured person from attending to his business or occupation.
36. "Third party"
means any person or company who is not a director, officer, partner or **employee** of the company named as the Insured in the Declarations, or any **subsidiary**.
37. "Virus"
means any malicious software code including but not limited to any logic bomb, Trojan horse or worm that has been introduced by any **third parties** or by any **employees** and that is designed to **damage**, destroy, corrupt, overload, circumvent or impair the functionality of computer systems, software and ancillary equipment.
38. "We/our/us"
means the Underwriters named in the Declarations.
39. "Withheld fees"
means any contractually due fee that **your client** refuses to pay **you**, but excludes any part of the fee that represents **your profit** or mark-up or liability for taxes.
40. "Workmanship"
means any physical **workmanship** in manufacture, fabrication, construction, erection, installation, assembly, alteration, servicing, remediation, repair, demolition or disassembly (including any materials, parts or equipment furnished in connection therewith) by **you**.
41. "Wrongful act"
means any act or event the subject of **INSURING CLAUSE 1** of this Policy for which **you** have purchased coverage.
42. "You/your"
means:
a) the company named as the Insured in the Declarations, or any **subsidiary**, and
b) any past, present or future **employee**, trainee, director, officer or partner of the company named as the Insured in the Declarations or any **subsidiary**.

EXCLUSIONS

We will not

- a) make any payment on your behalf for any claim, or
- b) incur any costs and expenses, or
- c) reimburse you for any loss, damage, legal expenses, fees or costs sustained by you, or
- d) pay any medical expenses:

EXCLUSIONS RELATING TO OTHER INSURANCES:

1. Marine and aviation

arising directly or indirectly from the ownership, possession or use by you or on your behalf of any aircraft, hovercraft, offshore installation, rig, platform or watercraft.

2. Auto

arising directly or indirectly from the ownership, possession or use by you or on your behalf of any motor vehicle or trailer other than injury or damage:

- a) caused by the use of any tool or plant forming part of or attached to or used in connection with any motor vehicle or trailer;
- b) occurring beyond the limits of any carriageway or thoroughfare and caused by the loading or unloading of any motor vehicle or trailer;
- c) arising out of the use of any motor vehicle or trailer temporarily in your custody or control for the purpose of parking;

provided always that we will not make any payment on your behalf or incur any costs and expenses in respect of any legal liability for which compulsory insurance or security is required by legislation or for which a government or other authority has accepted responsibility.

3. Project-specific insurance

arising out of any projects for which you have purchased project specific insurance.

4. Product guarantee

for costs incurred in the repair, alteration, reinstatement, inspection, reconditioning or replacement of any product or part thereof and any financial loss consequent upon the necessity for such repair, alteration, reinstatement, inspection, reconditioning or replacement, other than in respect of INSURING CLAUSE 1 when you are legally obliged to pay these sums to a client.

5. Product recall

arising directly or indirectly from the recall of any product or part thereof except for claims made under INSURING CLAUSE 1 where you are legally liable for these costs to a third party as the direct result of a wrongful act committed or alleged to have been committed by you.

6. Employment practices

arising out of or resulting from any employer-employee relations, policies, practices, acts, omissions, any actual or alleged refusal to employ any person, or misconduct with respect to employees.

7. Employers' liability

arising directly or indirectly out of injury to your directors, officers, partners or employees.

However, this EXCLUSION shall not apply to employees on whose behalf contributions are required to be made by you under the provisions of any Workers' Compensation Law in respect of whom liability has been denied by any Workers' Compensation authority.

8. Directors' and Officers'

arising out of any personal liability incurred by your directors or officers when they are acting in that capacity or managing you, or arising from any statement, representation or information regarding your business contained within any accounts, reports or financial statements.

9. Double insurance

for which you are entitled to indemnity under any other insurance except for:

- a) any additional sum which is payable over and above such other insurance, or
- b) any contribution that we are obliged to make by law and that contribution shall be in proportion to the respective limits of liability or amounts insured of the Policies.

EXCLUSIONS RELATING TO THE CONDUCT OF YOUR BUSINESS:

10. Benefit laws

arising directly or indirectly out of your failure to comply with the mandatory provisions of any law concerning workers compensation, unemployment insurance, social security, disability benefits or pension benefits.

11. Circumstances known at inception

arising out of any circumstances or occurrences which could give rise to a claim, loss or damage under this Policy or any accidents giving rise to medical expenses of which you are aware, or ought reasonably to be aware, prior to the Inception Date of this Policy, whether notified under any other insurance or not.

12. Computer failure

in respect of INSURING CLAUSES 7 and 8 only, arising directly or indirectly from loss or distortion of your data or damage to your electrical or mechanical plant resulting from a failure of your computer or ancillary equipment (including monitors, keyboards, printers or software), television or video equipment, photographic, photocopying, surveying or telecommunications equipment. However, we will reimburse you up to the amount insured for damage occurring during the period of the policy to your office computer and ancillary equipment, but only if your office computer and ancillary equipment is subject to a manufacturer's guarantee or a maintenance contract providing free parts and labour in the event of a breakdown.

13. Contractual fines and penalties

for fines and penalties arising from your breach of contract, including any liquidated damages, service credits or associated penalties arising from your failure to perform under a service level agreement.

14. Employee benefit program advice

arising directly or indirectly from:

- a) advice given to any person to participate or not to participate in any plan included in your employee benefit program;
- b) the failure of any investment to perform as represented by you.

15. ERISA

arising out of or resulting from your acts related to any pension, healthcare, welfare, profit sharing, mutual or investment plans, funds or trusts; or any violation of any provision of the Employee Retirement Income Security Act of 1974, or any amendment to the Act or any violation of any regulation, ruling or order issued pursuant to the Act.

16. Failure to ensure feasibility of contracts

arising from any contract where before entering into or amending the contract you failed to take reasonable steps to ensure that you could fulfil all your obligations in accordance with the terms of the contract.

17. Faulty workmanship

arising from damage to your property or office caused directly or indirectly by misuse, inadequate or inappropriate maintenance, faulty workmanship, defective design, the use of faulty materials or whilst being cleaned, worked on or maintained.

18. Hazardous devices

arising directly or indirectly from any product which with your knowledge is intended for incorporation into the structure.

machinery or controls of any aircraft, other aerial device, military vehicle, hovercraft, waterborne craft or any medical equipment.

19. **Legal Action**
where action for damages is brought in a court of law outside the territories specified in the Declarations, or where action is brought in a court of law within those territories to enforce a foreign judgement whether by way of reciprocal agreement or otherwise.
20. **Limiting recovery rights**
arising directly or indirectly out of your failure to take reasonable steps to ensure that our rights of recovery against any third party are not unduly restricted or financially limited by a specific term in any contract or agreement.
21. **Patents**
arising out of the actual or alleged infringement of any patent or inducing the infringement of any patent.
22. **Retroactive Date**
in respect of **INSURING CLAUSES 1** and **2** only, arising out of any actual or alleged **wrongful act** or negligent act, error or omission committed before the date specified as the Retroactive Date in the Declarations.
23. **RICO**
for or arising out of any actual or alleged violation of the Organised Crime Control Act of 1970 (commonly known as the Racketeer Influenced and Corrupt Organisation Act or RICO), as amended, or any regulation promulgated thereunder or any similar federal, state or local law, whether such law is statutory, regulatory or common law.
24. **SEC**
for or arising out of the actual or alleged violation of the Securities Act of 1933, the Securities Exchange Act of 1934, or any similar state or federal law, or any amendment to the above laws or any violation of any order, ruling or regulation issued pursuant to the above laws.
25. **Unjust enrichment**
in respect of **INSURING CLAUSE 1** only, for that part of any claim that results in you being in a better financial position as a direct result of your **wrongful act** than you would have been if you had not committed the **wrongful act**.
26. **Water ingress (applicable to British Columbia only)**
arising out of, or relating directly or indirectly to, in whole or in part, the infiltration of precipitation into the **building envelope** of a building located in the Province of British Columbia, or into a **multi-unit building** located in the Province of British Columbia.

For the purposes of this exclusion the following definitions are added to the Policy:

Multi-unit building means a building containing more than one unit, whether that unit is used for residential, industrial or any other purpose.

Building envelope means the assemblies, components, and materials of a building which are intended to separate and protect the interior space of a building from the adverse effects of exterior climatic conditions.

Infiltration of precipitation means, but is not limited to, the actual, alleged, threatened, or possible infiltration, migration, presence, accumulation, condensation or dispersal of water or moisture on, in, or into the **building envelope**.
27. **Willful or dishonest acts of directors**
in respect of **INSURING CLAUSES 1** and **2** only, arising out of any willful, malicious, reckless or dishonest act or omission by any director, partner or officer of the company named as the Insured in the Declarations or any **subsidiary**, unless such person had already ceased to be a director, partner or officer of the company named as the Insured in the Declarations and all **subsidiaries** at the time of their first willful, malicious, reckless or dishonest act or omission, or unless specifically covered under **INSURING CLAUSE 1 SECTION A (e)**. We will not provide any cover for any director, partner or

officer of the company named as the Insured in the Declarations or any **subsidiary** who commits, condones or ignores any dishonesty.

GENERAL INSURANCE EXCLUSIONS:

28. **Antitrust**
for or arising out of any actual or alleged antitrust violation, restraint of trade, unfair competition, false, deceptive or unfair trade practices, violation of consumer protection laws or false or deceptive advertising unless insurable under the applicable law.
29. **Asbestos**
arising from or contributed to by the manufacturing, mining, use, sale, installation, removal, distribution of or exposure to asbestos, materials or products containing asbestos, or asbestos fibres or dust, unless arising directly from a **wrongful act** committed by you:
 - a) on or after 1st January 1990, or
 - b) on or after the date specified as the Retroactive Date in the Declarations,
 - c) whichever is the later, in the course of your **business activities**.
30. **Associated companies**
 - a) in respect of any **claim** made by any company firm or partnership in which the company named as the Insured in the Declarations has an executive or financial interest, unless such **claim** emanates from an independent **third party**; or
 - b) in respect of any **claim** made by any company firm partnership or individual which has an executive or financial interest in the company named as the Insured in the Declarations or any **subsidiary**, unless such **claim** emanates from an independent **third party**; or
 - c) arising out of or resulting from any of your activities as a trustee, partner, officer, director or **employee** of any **employee** trust, charitable organization, corporation, company or business other than that of the company named as the Insured in the Declarations or any **subsidiary**; or
 - d) in respect of any **claim** made by or on behalf of the company named as the Insured in the Declarations or any **subsidiary**.
31. **Earthquake**
in respect of **INSURING CLAUSES 7** and **8** only, caused by earthquake, except for:
 - a) ensuing **loss** or **damage** which results directly from fire, explosion, smoke or leakage from fire protective equipment; or
 - b) ensuing **damage** to **contents** of every description while in transit.
32. **Electromagnetic fields**
directly or indirectly arising out of, resulting from or contributed to by electromagnetic fields, electromagnetic radiation, electromagnetism, radio waves or noise.
33. **Flood**
in respect of **INSURING CLAUSES 7** and **8** only, caused by flood, including waves, tides, tidal waves, or the rising of, the breaking out, or the overflow, of any body of water whether natural or manmade, but this **EXCLUSION** does not apply to:
 - a) ensuing **loss** or **damage** which results directly from fire, explosion, smoke or leakage from fire protective equipment; or
 - b) ensuing **damage** to **contents** of every description while in transit.
34. **Fines**
for fines, penalties, civil or criminal sanctions and for punitive, multiple or exemplary damages unless insurable under the applicable law.
35. **Insolvency**
arising out of or relating directly or indirectly from your insolvency or bankruptcy, or the insolvency or bankruptcy of any third party. Furthermore, no coverage is provided under **INSURING CLAUSE 8** if you become insolvent or bankrupt.
36. **Land or water**
arising directly or indirectly from **damage** to land or water within or

below the boundaries of any land or premises presently or at any time previously owned or leased by you or otherwise in your care, custody or control.

37. Miscellaneous property exclusions

In respect of **INSURING CLAUSES 7 and 8** only, arising directly or indirectly from:

- a) wear and tear, inherent defect, rot, vermin or infestation, or any gradually operating cause;
- b) dryness or humidity, being exposed to light or extreme temperatures, unless the damage is caused by storm or fire;
- c) coastal or river erosion;
- d) theft from an unattended vehicle unless the item is out of sight;
- e) frost, other than damage due to water leaking from burst pipes forming part of the permanent internal plumbing provided the office is occupied and in use;
- f) arising directly or indirectly from unexplained loss or disappearance or inventory shortage of your property;
- g) a hacking attack or virus.

38. Nuclear

arising directly or indirectly from or contributed to by:

- a) ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel;
- b) the radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.

39. Pollution

arising directly or indirectly out of:

- a) pollution or contamination of the atmosphere, or of any water, land, buildings or other property;
- b) any enforcement action in connection with the containment, clean-up, removal or treatment of such pollution or contamination;

but this EXCLUSION shall not apply in respect of:

- i) **INSURING CLAUSE I, SECTION D**; or
- ii) **INSURING CLAUSES 7 and 8** to the backing up of sewers, sumps, septic tanks or drains.

40. Toxic mould / fungus

arising directly or indirectly from any loss, injury, damage, costs or expenses, including, but not limited to, losses, damage, costs or expenses related to, arising from or associated with clean-up, remediation, containment, removal or abatement, caused directly or indirectly, in whole or in part, by:

- a) any fungus, mould, mildew or yeast, or
- b) any spore or toxins created or produced by or emanating from such fungus, mould, mildew or yeast, or
- c) any substance, vapour, gas, or other emission or organic or inorganic body or substance produced by or arising out of any fungus, mould, mildew or yeast, or
- d) any material, product, building component, building or structure, or any concentration of moisture, water or other liquid within such material, product, building component, building or structure, that contains, harbours, nurtures, or acts as a medium for any fungus, mould, mildew, yeast or spore or

toxins emanating therefrom,

regardless of any other cause, event, material, product or building component that contributed concurrently or in any sequence to that loss, injury, damage, cost or expense.

However, this EXCLUSION shall not apply in respect of **INSURING CLAUSE I** where the loss, injury, damage, costs or expenses arose directly from a wrongful act committed by you in the course of your business activities.

For the purposes of this EXCLUSION the following definitions are added to the Policy:

Fungus includes, but is not limited to, any plants or organisms belonging to the major group Fungi, lacking chlorophyll, and including moulds, rusts, mildews, smuts and mushrooms.

Mould includes, but is not limited to, any superficial growth produced on damp or decaying organic matter or on living organisms, and fungi that produced moulds.

Spore means any dormant or reproductive body produced by or arising from or emanating out of any fungus, mould, mildew, plants, organisms or microorganisms.

41. Trade Debt

arising out of or in connection with any trading losses or trading liabilities incurred by any business managed or carried on by you, or any loss of your profit arising from the loss of any client, account or business.

42. War and terrorism

directly or indirectly caused by, resulting from or in connection with any of the following regardless of any other cause or event contributing concurrently or in any other sequence to the claim, loss, damage, costs and expenses or medical expenses:

- a) war, invasion, acts of foreign enemies, hostilities or warlike operations (whether war be declared or not), civil war, rebellion, insurrection, civil commotion assuming the proportions of or amounting to an uprising, military or usurped power; or
- b) any act of terrorism.

For the purpose of this EXCLUSION an act of terrorism means an act, including but not limited to the use of force or violence or the threat thereof, of any person or groups of persons, whether acting alone or on behalf of or in connection with any organisations or governments, committed for political, religious, ideological or similar purposes including the intention to influence any government or to put the public, or any section of the public, in fear.

This EXCLUSION also excludes claims, losses, damage, costs and expenses or medical expenses of whatsoever nature directly or indirectly caused by, resulting from or in connection with any action taken in controlling, preventing, suppressing or in any way relating to a) or b) above.

This EXCLUSION does not apply to any claim or loss arising directly from a hacking attack or virus.

GENERAL CONDITIONS

I. What you must do in the event of a claim or loss

Should any director, partner, or senior executive officer of the company named as the Insured in the Declarations and any subsidiary become aware of any claim, loss or damage or of any situation that could give rise to a claim or loss or should an allegation, complaint or claim be made or intimated against you, the following obligations must be complied with by you:

- a) You must not admit liability for or settle or make or promise any payment in respect of any claim, loss or damage which may be covered under this Policy. Neither must you incur any costs or expenses in connection with such a claim, loss or damage without our written consent. However, you should arrange for any urgent repairs following damage covered under **INSURING CLAUSE 7** to be done immediately. Before any other repair

work begins we have the right to inspect your damaged property. We will notify you if we intend to do this.

- b) The Claims Managers, as specified in the Declarations, must be notified as soon as is reasonably possible if during the period of the policy:

- i) you suffer any loss or damage that could be covered by this Policy or any allegation, complaint or claim is made or intimated against you, whether verbal or made in writing.
- ii) any director, partner, or senior executive officer of the company named as the Insured in the Declarations and any subsidiary become aware of the intention of any person to make a complaint allegation or claim against you, whether verbal or in writing. Once notice has been

made to us, we will regard any subsequent claim that may arise as notified under this Policy.

- iii) you become aware of an action of yours that could give rise to a loss, allegation, complaint or claim being made or intimated against you. Once notice has been made we will regard any subsequent claim that may arise as notified under this Policy.
- iv) you discover reasonable cause for suspicion of fraud or dishonesty whether this could give rise to a claim under this Policy or not and we shall not be liable under this Policy for any claim or loss sustained in consequence of any fraudulent or dishonest act or omission committed after the date of such discovery.

We have nominated the Claims Managers to accept notice on our behalf.

Due to the nature of the coverage offered by this Policy, any unreasonable delay by any director, partner, or senior executive officer of the company named as the Insured in the Declarations and any subsidiary in notifying the Claims Managers of (i), (ii), (iii) or (iv) above could lead to the size of the claim, loss or damage increasing or to our rights being restricted. We shall not be liable for that portion of any claim that is due to any unreasonable delay in any director, partner, or senior executive officer of the company named as the Insured in the Declarations and any subsidiary notifying the Claims Managers of any claim, loss or damage in accordance with this **GENERAL CONDITION**.

- c) We will expect you to provide us with full and accurate information about any matter that you notify to us under your obligations set out above. Once notice has been made you must give the Claims Managers all the assistance and information that is reasonably required. You must follow their advice and do anything that they reasonably require you to do to avoid, minimise, settle or defend any claim, loss or damage.

If you think a crime has been committed you must report it to the appropriate law enforcement authorities. You must also permit the Claims Managers and any other parties that are appointed by the Claims Managers to notify the appropriate law enforcement authorities of any claim, loss or damage where this action is deemed necessary, and you must comply with the advice given by such authorities.

If any of your computer or ancillary equipment is lost or stolen while it is temporarily removed from the office, we will not make any payment unless you report the loss to the police within 48 hours after you become aware of it.

2. Continuous cover

If you have neglected, through error or oversight only, to report a claim made against you during the period of a previous renewal of this Policy issued to you by us, then provided that you have maintained uninterrupted insurance of the same type with us since the expiry of that earlier Policy, then, notwithstanding **EXCLUSION 11**, we will permit the matter to be reported under this Policy and will indemnify you, provided that:

- a) the indemnity will be subject to the applicable aggregate limit of liability or limit of liability of the earlier Policy under which the matter should have been reported or the aggregate limit of liability or limit of liability of the current Policy, whichever is the lower;
- b) we may reduce the indemnity entitlement by the monetary equivalent of any prejudice which has been suffered as a result of the delayed notification;
- c) the indemnity will be subject in addition, to all of the terms, **CONDITIONS, DEFINITIONS and EXCLUSIONS**, other than the aggregate limit of liability or limit of liability, contained in this current Policy.

3. Fraudulent claims

If you notify us of any claim knowing that claim to be false or fraudulent in any way, we shall have no responsibility to pay that claim

or any other claims under this insurance and the Policy will be treated as if it had not been effected.

4. Agreement to pay claims

We have the right and duty to take control of and conduct in your name the investigation settlement or defence of any claim. We shall also pay on your behalf costs and expenses incurred with our prior written consent (subject to the Limits of Liability and applicable Deductible shown in the Declarations) provided that we shall not

- a) pay for the costs and expenses of any part of a claim that is not covered by this Policy.
- b) incur any costs and expenses in the defence of any claim unless there is a reasonable prospect of success, taking into account the commercial considerations of the costs of defence.

We shall always endeavour to settle any claim through negotiation, mediation or some other form of alternative dispute resolution and shall pay on your behalf the amount so agreed by us and the claimant. If we cannot settle by such means, we shall pay the amount which you are found liable to pay either in court or through arbitration proceedings, subject always to the limit of liability shown in the Declarations.

If you refuse to consent to a settlement that we recommend and that the claimant will accept, you must then defend, investigate or settle the claim at your own expense. As a consequence of your refusal, our liability for any claim shall not be more than the amount that we could have settled the claim for had you consented, plus any costs and expenses incurred prior to the date of such refusal.

5. Innocent non-disclosure

We will not seek to avoid the Policy or reject any claim on the grounds of non-disclosure or misrepresentation except where the non-disclosure or misrepresentation was reckless or fraudulent or you failed to conduct a full inquiry prior to providing the information that forms the basis of this insurance. In the event that we seek to avoid the Policy or reject any claim on this basis the burden of proving otherwise rests solely with you.

6. Your duty to advise us of changes

If you become aware that any of the information that you have given us in the Application Form or elsewhere in connection with your application for this insurance has materially changed then you must advise us as soon as is practicable. In this event, we reserve the right to amend the terms, conditions or premium of the Policy.

7. Risk management conditions

If we attach any additional conditions to your Policy regarding any risk survey or risk management timetable or any other similar conditions then it is your responsibility to ensure that these conditions are complied with by the deadlines shown in the conditions.

8. Our rights of recovery

If any payment is made under this Policy in respect of a claim, loss or damage and there is available to us any of your rights of recovery against any other party then we maintain all such rights of recovery. We shall not exercise these rights against any past, present or future employee, director, officer or partner of the company named as the Insured in the Declarations or any subsidiary, unless such payment is in respect of any wilful, malicious or dishonest acts or omissions. You must do nothing to impair any rights of recovery. At our request you will bring proceedings or transfer those rights to us and help us to enforce them. Any recoveries shall be applied as follows:

- a) first, to us up to the amount of our payment on your behalf including costs and expenses;
- b) then to you as recovery of your Deductible or other amounts paid as compensation or costs and expenses.

9. Waiver of subrogation

Notwithstanding **GENERAL CONDITION 8** above we agree to waive our rights of subrogation against a responsible third party client of yours but only if you and your client have entered into a contract that contains a provision requiring us to do this.

10. Cancellation

This Policy may be cancelled:

- a) by you at any time on request; or
- b) by us if we give you 30 days written notice, or
- c) by us if we give you 15 days written notice, should any amount in default not be paid within 15 days of the due date shown in the Debit Note that accompanies this Policy.

If you give us notice of cancellation in accordance with a) above, the earned Premium shall be computed at pro rata to the number of days that the Policy is in effect subject to a minimum amount of 30% of the Premium.

If we give you notice of cancellation in accordance with b) or c) above, the Premium shall be computed at pro rata to the number of days that the Policy is in effect.

The Policy Administration Fee shall be deemed fully earned upon inception of the Policy.

11. Prior subsidiaries

In respect of **INSURING CLAUSE 1** only, should an entity cease to be a subsidiary after the Inception Date of this Policy, cover in respect of such entity shall continue as if it was still a subsidiary, until the termination of this Policy, but only in respect of any claim or loss that arises out of any act, error or omission committed by that entity prior to the date that it ceased to be a subsidiary.

12. Mergers and acquisitions

During the period of the policy, if the company named as the Insured in the Declarations or any subsidiary

- a) purchases assets or acquires liabilities from another entity in an amount greater than 10% of the assets of the company named as the Insured in the Declarations as listed in its most recent financial statement; or
- b) acquires another entity whose annual revenues are more than 10% of the annual revenues of the company named as the Insured in the Declarations for their last completed financial year;

then you shall have no coverage under this Policy for any claim, loss or damage that arises directly or indirectly out of the purchased or acquired entity unless the company named as the Insured in the Declarations gives us written notice prior to the purchase or acquisition, obtains our written consent to extend coverage to such additional entities, assets or exposures, and agrees to pay any additional premium required by us.

If during the period of the policy the company named as the Insured in the Declarations consolidates or merges with or is acquired by another entity, then all coverage under this Policy shall terminate at the date of the consolidation, merger or acquisition unless we have issued an endorsement extending coverage under this Policy, and the company named as the Insured in the Declarations has agreed to any additional premium and terms of coverage required by us.

13. Extended reporting period

In respect of **INSURING CLAUSES 1** and **2** only, an Extended Reporting Period of 60 days following the Expiry Date as shown in the Declarations shall be automatically granted hereunder at no additional premium. Such Extended Reporting Period shall cover claims first made and reported to us during this 60 day Extended Reporting Period but only in respect of any act, error or omission committed prior to the date of cancellation or non-renewal, and subject to all other terms, conditions and exclusions of the policy. No claim shall be accepted by us in this 60 day Extended Reporting Period if you are entitled to indemnity under any other insurance, or would have been entitled to indemnity under such insurance but

for the exhaustion thereof.

14. Optional extended reporting period

In respect of **INSURING CLAUSES 1** and **2** only, in the event of:

- a) cancellation or non-renewal of this Policy by us, or
- b) cancellation or non-renewal of this Policy by you because you have ceased to trade as the direct result of the retirement or death of all of your directors, officers or partners;

then you shall have the right, upon payment of the Optional Extended Reporting Period Premium shown in the Declarations in full and not proportionally or otherwise in part, to have issued an endorsement providing a 365 day Optional Extended Reporting Period from the cancellation or non-renewal date. Such Optional Extended Reporting Period shall cover claims first made against the company named as the Insured in the Declarations or any subsidiary and notified to us during this Optional Extended Reporting Period but only in respect of any claim arising out of any act, error or omission committed prior to the date of cancellation or non-renewal, and subject to all other terms, conditions and exclusions of the policy.

In order for you to invoke the Optional Extended Reporting Period option, the payment of the Optional Extended Reporting Period Premium shown in the Declarations for this Optional Extended Reporting Period must be paid to us within 15 days of the date of the non-renewal or cancellation.

At the commencement of this Optional Extended Reporting Period the entire premium shall be deemed earned and in the event that you terminate the Optional Extended Reporting Period for any reason prior to its natural expiration, we will not be liable to return any premium paid.

The right to the Extended Reporting Period or the Optional Extended Reporting Period shall not be available to you where:

- a) Cancellation or non-renewal by us is due to non-payment of premium, or
- b) Cancellation or non-renewal by us is due to your failure to pay such amounts in excess of the applicable Limit of Liability or within the amount of the applicable Deductible as is required by this Policy in the payment of claims.

At the renewal of this Policy, our quotation of different premium, Deductible or Limit of Liability or changes in policy language shall not constitute non-renewal by us for the purposes of granting this Optional Extended Reporting Period.

In no event shall the granting of the Extended Reporting Period or the Optional Extended Reporting Period increase our Limit of Liability, including costs and expenses, as shown in the Declarations.

15. Choice of law

This Policy shall be interpreted under, governed by and construed in all respects in accordance with the law of the jurisdiction of the place of registration of the company named as the Insured in the Declarations and for this purpose, we and you agree to submit to the exclusive jurisdiction of the courts within the territorial limits and jurisdiction of the place of registration of the company named as the Insured in the Declarations.

In any action to enforce our obligations under this Policy we can be designated or named as "Lloyd's Underwriters" and such designation shall be binding on Lloyd's Underwriters liable under this Policy as if we had each been individually named as defendant. Service of such proceedings may validly be made upon the Attorney In Fact in Canada for Lloyd's Underwriters, whose address for such service is 1155, rue Metcalfe, Suite 2220, Montreal, Quebec, H3B 2V6.

STATUTORY CONDITIONS

1. Misrepresentation

If a person applying for insurance falsely describes the property to the prejudice of the Insurer, or misrepresents or fraudulently omits to communicate any circumstance that is material to be made known

to the Insurer in order to enable it to judge of the risk to be undertaken, the contract is void as to any property in relation to which the misrepresentation or omission is material.

2. Property of others

Unless otherwise specifically stated in the contract, the Insurer is not liable for loss or damage to property owned by any person other than the Insured, unless the interest of the Insured therein is stated in the contract.

3. Change of interest

The Insurer is liable for loss or damage occurring after an authorized assignment under the Bankruptcy Act or change of title by succession, by operation of law, or by death.

4. Material change

Any change material to the risk and within the control and knowledge of the Insured avoids the contract as to the part affected thereby, unless the change is promptly notified in writing to the Insurer or its local agent; and the Insurer when so notified may return the unearned portion, if any, of the premium paid and cancel the contract, or may notify the Insured in writing that, if he desires the contract to continue in force, he must within fifteen (15) days of the receipt of the notice, pay to the Insurer an additional premium; and in default of such payment the contract is no longer in force and the Insurer shall return the unearned portion, if any, of the premium paid.

5. Termination

1. This contract may be terminated:
 - a) by the Insurer giving to the Insured fifteen (15) days' notice of termination by registered mail or five (5) days' written notice of termination personally delivered;
 - b) by the Insured at any time on request.
2. Where this contract is terminated by the Insurer:
 - a) the Insurer shall refund the excess of premium actually paid by the Insured over the pro rata premium for the expired time, but in no event, shall the pro rata premium for the expired time be less than any minimum retained premium specified; and
 - b) the refund shall accompany the notice unless the premium is subject to adjustment or determination as to amount, in which case the refund shall be made as soon as practicable.
3. Where this contract is terminated by the Insured, the Insurer shall refund as soon as practicable the excess of the premium actually paid by the Insured over the short rate premium for the expired time, but in no event shall the short rate premium for the expired time, be deemed to be less than any minimum retained premium specified.
4. The refund may be made by money, postal or express company money order or cheque payable at par.
5. The fifteen (15) days mentioned in clause (1) (a) of this condition commences to run on the day following the receipt of the registered letter at the post office to which it is addressed.

6. Requirements after loss

1. Upon the occurrence of any loss or of damage to the insured property, the Insured shall, if the loss or damage is covered by the contract, in addition to observing the requirements of Conditions 9, 10 and 11:
 - a) forthwith give notice thereof in writing to the Insurer;
 - b) deliver as soon as practicable to the Insurer a proof of loss verified by a statutory declaration,
 - i) giving a complete inventory of the destroyed and damaged property and showing in detail quantities, costs, actual cash value and particulars of amount of loss claimed,
 - ii) stating when and how the loss occurred, and if caused by fire or explosion due to ignition, how the fire or explosion originated, so far as the Insured knows or believes,
 - iii) stating that the loss did not occur through any wilful act or neglect or the procurement, means or connivance of the Insured,
 - iv) showing the amount of other insurance and the names of other Insurers,
 - v) showing the interest of the Insured and of all others in the property with particulars of all liens, encumbrances and other charges upon the property,

vi) showing any changes in title, use, occupation, location, possession or exposures of the property since the issue of the contract,

vii) showing the place where the property insured was at the time of loss,

c) if required give a complete inventory of undamaged property and showing in detail quantities, cost, actual cash value;

d) if required and if practicable, produce books of account, warehouse receipts and stock lists, and furnish invoices and other vouchers verified by statutory declaration, and furnish a copy of the written portion of any other contract.

2. The evidence furnished under Clauses 1 (c) and (d) of this condition shall not be considered proofs of loss within the meaning of Statutory Conditions 12 and 13.

7. Fraud

Any fraud or wilfully false statement in a statutory declaration in relation to any of the above particulars, vitiates the claim of the person making the declaration.

8. Who may give notice and proof

Notice of loss may be given, and proof of loss may be made, by the agent of the Insured named in the contract in case of absence or inability of the Insured to give the notice or make the proof, and absence or inability being satisfactorily accounted for, or in the like case, or if the Insured refuses to do so, by a person to whom any part of the insurance money is payable.

9. Salvage

1. The Insured in the event of any loss or damage to any property insured under the contract, shall take all reasonable steps to prevent further damage to any such property so damaged and to prevent damage to other property insured hereunder including, if necessary, its removal to prevent damage or further damage thereto.
2. The Insurer shall contribute pro rata towards any reasonable and proper expenses in connection with steps taken by the Insured and required under subparagraph 1 of this condition according to the respective interests of the parties.

10. Entry, control, abandonment

After loss or damage to insured property, the Insurer has an immediate right of access and entry by accredited agents sufficient to enable them to survey and examine the property, and to make an estimate of the loss or damage, and after the Insured has secured the property, a further right of access and entry sufficient to enable them to make appraisal or particular estimate of the loss or damage, but the Insurer is not entitled to the control or possession of the insured property, and without the consent of the Insurer there can be no abandonment to it of insured property.

11. Appraisal

In the event of disagreement as to the value of the property insured, the property saved or the amount of the loss, those questions shall be determined by appraisal as provided under the Insurance Act before there can be any recovery under this contract whether the right to recover on the contract is disputed or not, and independently of all other questions. There shall be no right to an appraisal until a specified demand therefor is made in writing and until after proof of loss has been delivered.

12. When loss payable

The loss is payable within sixty (60) days after completion of the proof of loss, unless the contract provides for a shorter period.

13. Replacement

1. The Insurer, instead of making payment, may repair, rebuild, or replace the property damaged or lost, giving written notice of its intention so to do within thirty days after receipt of the proofs of loss.
2. In that event the Insurer shall commence to so repair, rebuild or replace the property within forty-five (45) days after receipt of the proofs of loss, and shall thereafter proceed with all due diligence to the completion thereof.

14. Action

Every action or proceeding against the Insurer for the recovery of any claim under or by virtue of this contract is absolutely barred unless commenced within one year next after the loss or damage

occurs.

15. Notice

Any written notice to the Insurer may be delivered at, or sent by registered mail to, the chief agent or head office of the Insurer in the

PRIVACY NOTICE

By purchasing insurance from certain Underwriters at Lloyd's, London ("Lloyd's"), a customer provides Lloyd's with his or her consent to the collection, use and disclosure of personal information, including that previously collected, for the following purposes:

- the communication with Lloyd's policyholders
- the underwriting of policies
- the evaluation of claims
- the detection and prevention of fraud
- the analysis of business results
- purposes required or authorised by law

For the purposes identified, personal information may be disclosed to Lloyd's related or affiliated organisations or companies, their agents/mandataries, and to certain non-related or unaffiliated organisations or companies.

Further information about Lloyd's personal information protection policy may be obtained from the customer's broker or by contacting Lloyd's on 514 861 8361 or through info@lloyds.ca.

ONTARIO COMMERCIAL LIABILITY NOTICE

Notice to Insureds:

Pursuant to the **Freedom Of Information And Protection Of Privacy Act, R.S.O. 1990, c.F31 (as amended)**

Important

The notice below applies to insurance contracts containing non-automobile legal liability coverages in provinces where statistical data relating to such contracts must be reported to the Superintendent of Insurance.

Legal authority for collection

Insurance Act, R.S.O. 1990, c.I.8, section 101(1).

Principal purpose for which personal information is intended to be used information collected by insurers from insureds or supplied to insurers pertaining to the attached document will be used:

- to compile aggregate statistical data to be used in monitoring trends in the insurance industry;

- to develop statistical exhibits to be used in monitoring the insurance industry;
- to respond to requests for customized statistical information on the insurance industry;
- to respond to inquiries on statistical information made to Office of the Superintendent of Insurance; and
- to use and disclose such information for purposes which are consistent with the previous clauses.

The Public Official who can answer questions about the collection is:

Manager, Statistical Services
 Financial Services Commission of Ontario
 5160 Yonge Street, 17th Floor
 Box 85
 North York, Ontario M2N 6L9
 Telephone: (416) 250-7250
 Fax: (416) 590-7070

FOI (11/1999)

COMPLAINTS PROCEDURE

If you have a complaint with any aspect of your Lloyd's insurance, please refer to the broker/agent who arranged your policy for you.

OR

You may contact the General Insurance OmbudService (GIO) who will contact Lloyd's on your behalf. The GIO can be reached at:

GIO - Atlantic Provinces

(902) 429-2730
 Toll-free: 1-800-565-7189
 Website: www.gio-scad.org

GIO - British Columbia & Yukon

(604) 684-3635
 Toll-free: 1-877-772-3777
 Website: www.gio-scad.org

GIO - Ontario

(416) 362-9528
 Toll-free: 1-800-387-2880
 Website: www.gio-scad.org

GIO - Prairies, Northwest Territories & Nunavut

(780) 423-2212
 Toll-free: 1-800-377-6378
 Website: www.gio-scad.org

Province of Québec

GIO
 (514) 288-6015

Toll-free: 1-800-361-5131
 Website: www.gio-scad.org

OR

Autorité des marchés financiers (l'Autorité)

Québec City (418) 525-0311
 Montréal (514) 395-0311
 Toll-free: 1-866-526-0311
 E-mail: Renseignements-consommateur@autorite.qc.ca

GIO - Alberta

(780) 421-8181
 Toll-free: 1-888-421-4212
 Website: www.gio-scad.org

For more information or to submit the facts of your insurance-related dispute, please visit the GIO website at www.gio-scad.org.

Should you be dissatisfied with the outcome of your broker's resolution or with the GIO's / l'Autorité's assistance, please submit your written complaint to:

Lloyd's Canada Inc.

Broker Management Services
 1155 rue Metcalfe, Suite 2220
 Montreal, Quebec H3B 2V6
 Tel: 1-877-4LLOYDS
 Fax: (514) 861-0470
 E-mail: lineage@lloyds.ca

Your written complaint will be forwarded to Lloyd's Complaints Department in London which ensures that Lloyd's Underwriters and their representatives deal with claims and complaints in an acceptable manner. It acts as an impartial mediator. When undertaking a review this Department takes account of general legal principles, good insurance practice, and whether all events surrounding a given case have been considered fairly.

If you are dissatisfied with Lloyd's final letter, you may ask the GIO to arrange for mediation. Mediation is not available until Lloyd's has issued its final letter of position on your complaint.

In Québec you may also avail yourself of the services of l'Autorité who will study your file and may recommend mediation, if it deems this action appropriate and if both parties agree to it.

GIO - Alberta can be contacted where a policyholder is not satisfied with the basis on which a premium for basic coverage for a private passenger vehicle was determined, or considers that an insurer, directly or indirectly, has taken an adverse contractual action with respect to insurance for basic coverage.

SUBSCRIPTION NOTICE

IN CONSIDERATION OF THE INSURED having paid or agreed to pay each of the INSURERS named in the List of Subscribing Companies forming part hereof, or to INSURERS whose names are substituted therefor or added thereto by endorsement, hereinafter called "THE INSURERS", the Premium set against its name in the List of Subscribing Companies (attached hereto),

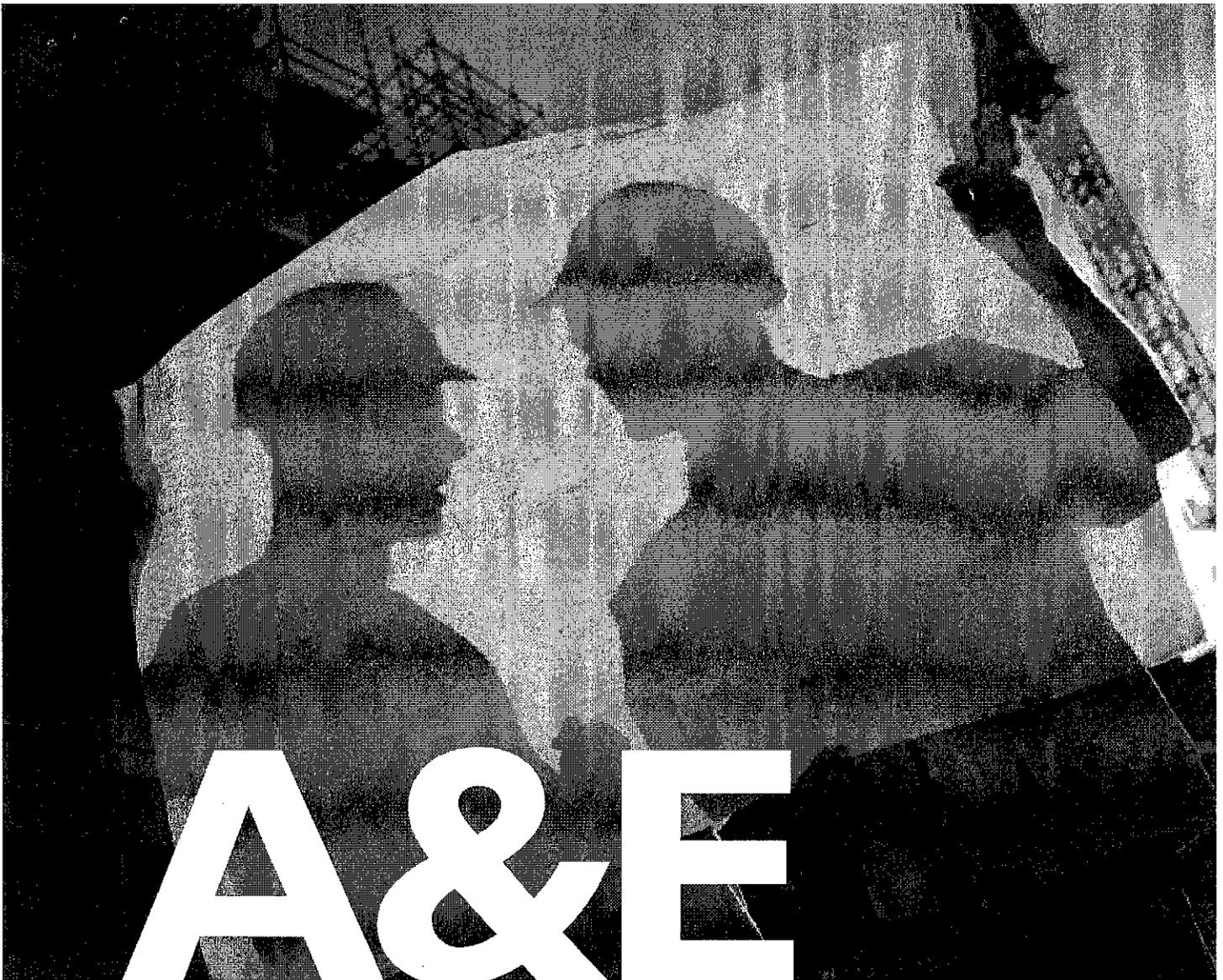
THE INSURERS SEVERALLY AND NOT JOINTLY agree, each for the Sum(s) Insured or Percentage(s) and for the Coverage(s) Insured set against its name in the List of Subscribing Companies, and subject always to the terms and conditions of this Policy, that if a loss occurs for which insurance is provided by this Policy at any time while it is in force, they will indemnify the INSURED against the loss so caused; the liability of each insurer individually for such loss being limited to that proportion of the loss payable according to the terms and conditions of this Policy which the Sum Insured or the amount corresponding to the Percentage set against its name in the List of Subscribing Companies, or such other sum or percentage as may be substituted therefor by endorsement, bears to

the total of the sums insured or of the amounts corresponding to the percentages of the sums insured respectively set out against the coverage concerned on the Declarations page(s).

Wherever in this Policy, or in any endorsement attached hereto, reference is made to "The Company", "The Insurer", "This Company", "we", "us", or "our", reference shall be deemed to be made to each of the Insurers severally.

This policy is made and accepted subject to the foregoing provisions, and to the other provisions, stipulations and conditions contained herein, which are hereby specially referred to and made a part of this Policy, as well as such other provisions, agreements or conditions as may be endorsed hereon or added hereto.

IN WITNESS WHEREOF THE INSURERS through their representative(s) duly authorized by them for this purpose have executed and signed this Policy.



INSURANCE FOR ARCHITECTS & ENGINEERS

ProSurance™ A&E

Policy Document

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A&E



INSURANCE FOR ARCHITECTS & ENGINEERS



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W: www.cfunderwriting.com

How taxidermy might save the grid, or why I stuffed a squirrel.



[Nick Hunn](#)

CTO at WiFore

Squirrels, Grid Security and a Stuffed Rudd

May 2, 2016

Probably the most effective way for any terrorist group or belligerent power to cripple a Western nation and bring it to its knees is to destroy its electricity grid. Without power, most of the infrastructure will crumble into chaos within a few weeks. Manufacturing would come to a standstill, along with healthcare, transport, banking, mobile communications and retail. That was seen in Iraq, where 70% of the generating capacity was destroyed during the Gulf war, in [what has been described as a crime against humanity](#). At that time, grid destruction relied on physical means – dropping bombs on power stations and sub-stations. As we integrate more electronics and software into the grid, you no longer need expensive munitions to blow things up – terrorists can do it from a computer.

It's two years since I last wrote about the [cybersecurity issues within the GB smart meter rollout](#). At that time the response from the industry was dismissive. In the past six months, three things have happened which bring the risk back into focus. We've seen the first major grid cyber attack in the Ukraine; secondly, smart home owners with Nest thermostats have discovered that firmware updates can stop them operating and the third is that reports have come in of smart meters in the UK which have stopped working. None of that means our grid is going to be hacked tomorrow, but they all point out that what has been dismissed as impossible may not be quite so difficult as the industry and DECC would like to believe. Despite that, heads are still firmly in the sand as the UK Government continues to press ahead with a smart metering programme that is not so much climate-friendly as terrorist-friendly.

So what have squirrels got to do with grid security? There is a lot of talk going on about energy security in the UK, but it has little to do with the security of our national infrastructure, as opposed to the simple maths of making sure that we have enough generating capacity to meet demand. When the subject of cybersecurity is raised there is little informed debate. Earlier this year, the media, along with a number of grid "experts" had great fun with the report that squirrels cause more power outages than hackers. There's even a [cybersquirrel website](#) where you can track the incidents. As a result, the cute little rodents have now entered the popular culture of the industry, such that real security issues get dismissed with trite squirrel references.

That distracts from the problem, which is that we now have some real security issues. At the end of last year, Kiev suffered serious blackouts. These were [blamed on Russian hackers](#) attempting to disrupt the Ukrainian grid. Whoever was responsible, they managed to shut down around a quarter of the country's substations for six hours. Details are still sketchy, but it appears that [malware was injected into utility computers](#) to turn them off. The belief is that the malware managed to send control messages to the substations. As those would have been valid commands from the central control system, the substations would have performed an orderly shut-down without causing any permanent harm to the grid. Hence the attack is annoying, but not one that would result in lasting damage. In its wake, cybersecurity [experts are warning](#) that 2016 is likely to see an increase in attacks in the utility sector.

The second issue that we have seen, or rather which Nest thermostat owners have seen, is the effect of bugs in downloaded firmware. At around the same time as the Ukraine attack, [Nest thermostats around the US started to turn off](#), leaving their owners to face freezing homes. That problem was caused by an undetected bug in a software upgrade which had been applied automatically. The bug caused the internal battery to drain, presumably because it pulled more power than many of the devices could scavenge from the control wiring. In the UK, Hive had a similar problem, where an app upgrade [directed thermostats to ramp the temperature up to a sweltering 32 deg C](#). Both were rectified after a week, but consumers realised that their thermostats were not as smart or reliable as they had assumed.

I'm sure the new software that was deployed in both of these cases was thoroughly tested, but it demonstrates how difficult it is to reproduce all of the different variables when you have lots of devices in lots of different situations. In other words, it's very difficult to be sure a software update is bug free, even when you have confidence in your programmers. As I said in my [previous article](#), it's easy to imagine a rogue programmer working for a meter manufacturers being able to insert malicious code which would turn millions of meters off at the same point in the future. That's possible, because all of the smart meters being installed in Britain allow the

utility to remotely disconnect your electricity and gas at the flip of a switch. If hackers turned off a million electricity meters in one go, that would cause serious damage to the grid. Turning them all on again a few days later would do even more damage, as restoring power when demand is unknown is particularly problematic and can burn out equipment on the grid, which gives a rogue programmer lots of scope to bring large parts of the country to its knees.

The point here is that it's very difficult to be 100% sure about an end-to-end system like this. Hive and Nest are a lot more experienced with this than our smart metering companies. They also have the advantage that they own all of the system. They designed the thermostats, the servers and the applications themselves, so they know how they all fit together. In contrast most GB domestic smart meter installations will have a gas and electricity meter designed by two different companies, the communications hub that connects them to the cellular network designed by a third; a switching centre – the DCC, designed and operated by a fourth with a cellular network operator in the middle, then a server application written by a fifth company, none of which have the level of skills and understanding which Nest had. So there's a strong chance that they will get it wrong at some point, giving an opportunity for a hacker to get in.

The third issue is a report that the Daily Mail picked up about [a smart gas meter which stopped working](#). It told the story of Martin Thompson, a British Gas customer who had smart gas and electricity meters installed. Three months later, on a very cold March morning the gas meter turned his gas off. An engineer came round, blamed the battery (which is supposed to last fifteen years) and reset the meter. Ten months later, on another cold day, it died again. Another engineer came around and put in a new smart meter, but this one couldn't talk to the British Gas servers. It worked, but wasn't very smart. So in February a third engineer came round to replace it with a working meter. If that reminds you of Flanders and Swann's "The Gasman Cometh" I've already [provided an updated version](#).

The serious point about this is that two meters had software issues, but in both cases they appear to have been treated as mechanical errors. It is quite possible they were just bad batteries, but in the world of secure, connected devices, faults like this should set alarm bells ringing, as embedded software which fails either indicates bugs which need to be fixed, or more worrying, bugs which may open up security vulnerabilities. I have tried to find out from British Gas and DECC whether they have any reporting process in place for these cases and so far I've failed to find anyone who understands what I'm talking about. I just get a repeat of "why worry - it must have been a bad battery".

I don't actually think this is complacency - I suspect it is mostly naivety. Our electricity companies are not high tech. They care passionately about reducing outages, but it's a largely manual concern – it's about sending people out to cut down foliage, repair power lines and clear up after fried squirrels. It's why they like the squirrel analogy – they understand squirrels, whereas they don't really understand hackers. Utilities have a very physical mindset, not a technical or intellectual one and probably don't realise the firmware risks. Their concept of smart meter security is about people fiddling their meter readings, not terrorists bringing down the entire grid. That's brilliantly illustrated in [British Gas' submission](#) to the House of Commons' Science and Technology's [call for evidence on smart metering](#), where they say that "Security is an issue British Gas takes extremely seriously. We store smart meter readings in the same way we do all our customers' personal information, which is all protected by the Data

Protection Act”. It’s a bit like someone walking into the lion enclosure at the zoo saying “I’ll be all right – I know I’m allergic to cat fur, but I’ve taken some anti-histamine”.

These three separate examples show that the smart metering programme needs to look more closely at the security risks. We need to question whether the benefit to utilities of having a remote disconnect has been weighed up against the risk of hacking and major grid disruption? We need to question whether firmware is being written as safety critical software? My experience is that in this industry it is not. And we need to understand whether there is enough expertise within DECC and our utilities to manage and assess the security requirements of the deployment. If the answer to any of these questions is no, we should stop the programme.

In the past I’ve found that writing objective, technical articles about the problems with the smart metering programme has had little effect other than a few sage nods of agreement, which is why [I’ve resorted to taxidermy](#) in the hope that it might highlight the fact that pursuing the current course could well leave us stuffed. It won’t just be the grid that is stuffed, it looks increasingly likely that the career of our Secretary of State for Energy and Climate Change could be on the line as well. If it’s any consolation to Amber, she won’t be the first Rudd to be stuffed, as it appears the Victorians got there first.



This fine specimen of Scardinius Erythrothalmus, or [common rudd](#), is currently available from [Ayre & Co.](#) for a mere £325. If there's a caring soul within DECC, they might want to contribute a small part of the [£1.3 million in bonuses](#) they picked up last year to purchase it and place it in the foyer of Whitehall Place as a cautionary warning to our Lady in Charge of Energy Policy. It would be the most visible example yet that anyone there has any awareness of the potential security consequences of the GB Smart Metering Programme.